The Magazine For Hewlett-Packard Enterprise Computing

HP Professional

HP-UX

Windows NT

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SEPTEMBER 1998

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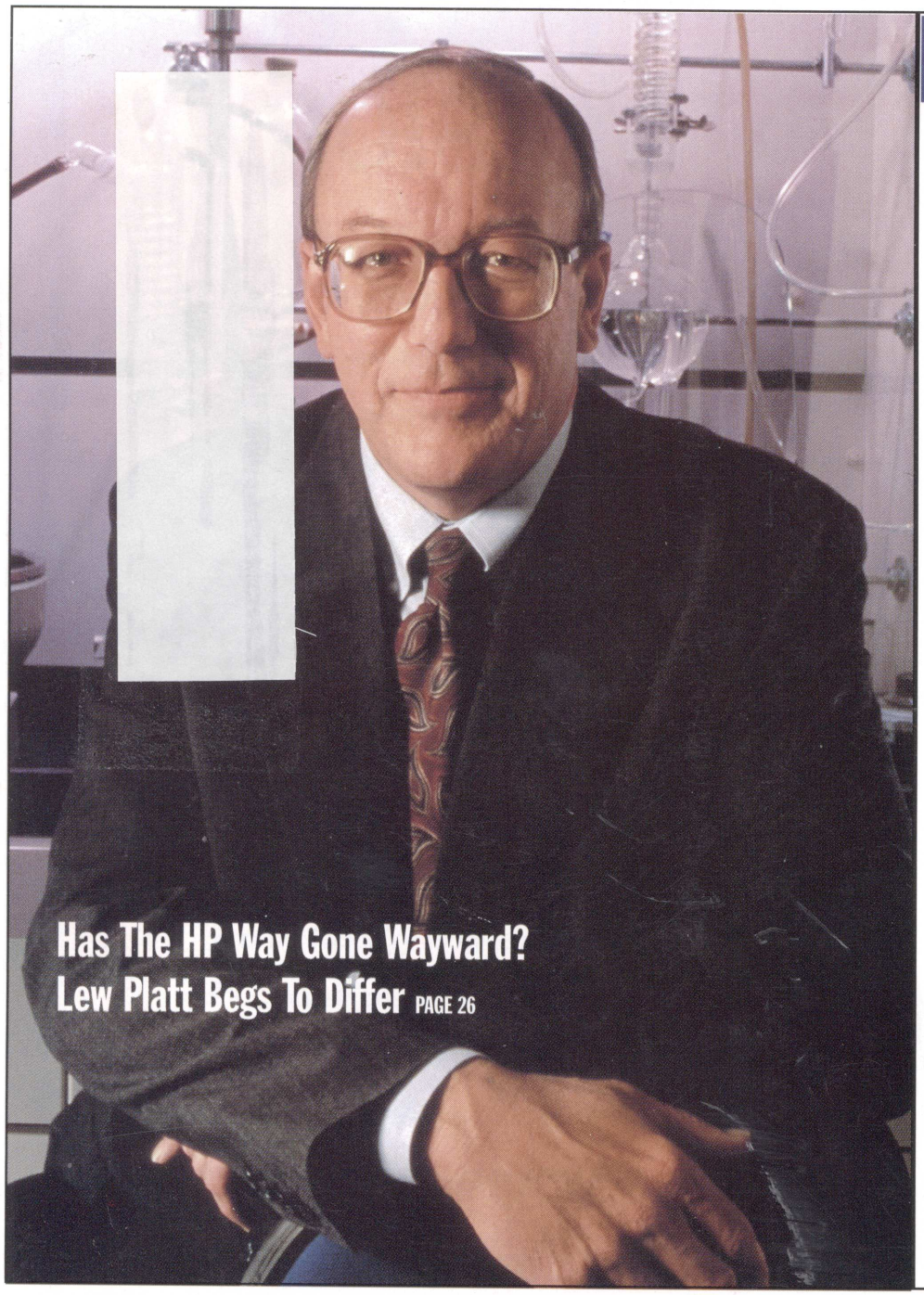

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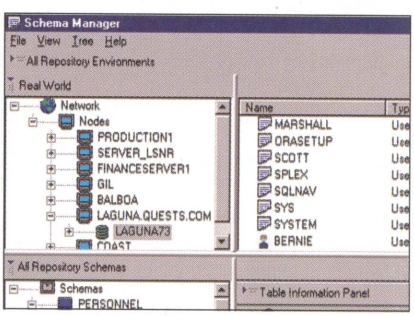

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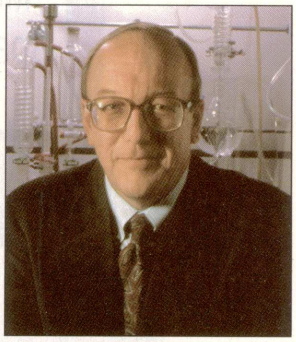

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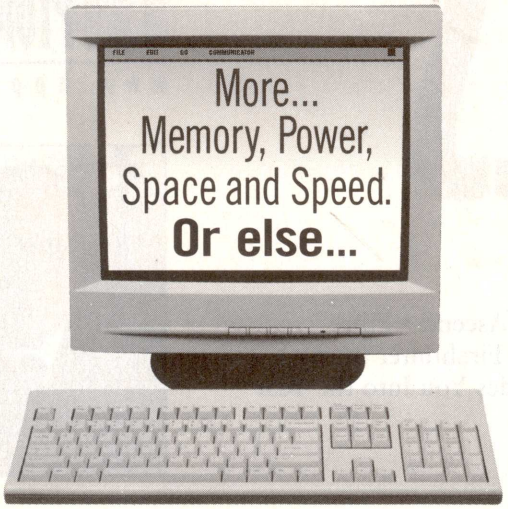

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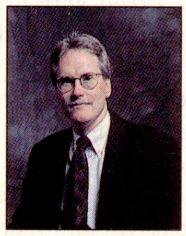
Is HP Headed For Dry Dock?



George A. Thompson
thompsonga@hppro.com

Can you believe it? Another *HP World* has come and gone. For some, it was just another one of the 4,400 trade shows that are annually held in the U.S. For others, in the, uh, HP world, it was just one more in Interex's twenty-four year history. For me, it was my fifth. And I've been impressed: each show has certainly expanded and improved with age.

Humorist Dave Barry told a tale in his opening monologue about how a city in Oregon blew up a beached whale carcass with dynamite to dispose of it (you really had to be there). It was well, a whale of a tale. What else did you expect? The next day, Lew Platt calmed the currents of doubt swimming around the HP 3000 by announcing that HP will "continue to refine the MPE/iX operating system. We'll do more work on the operating system to keep it current and powerful."

For more specific details about the new HP 3000 servers, MPE/iX 6.0 and new pricing check out our HP 3000 Solutions Section starting on page S-36. For a HP 3000 take on the show itself, read Associate Editor, Ken Deats' comments on page S-38. The fact that the HP 3000 has rebounded more often than a Bill Clinton candidacy, even surprised Lew Platt (see my interview with Mr. Platt in this issue). And with HP's endorsement, the HP 3000 certainly looks like its in better shape to survive the Year 2000 and beyond.

Despite all the glad handing and flashy booth giveaways at HP World, there were ill winds in the air. After several years of revenue growth in the 20 percent range, the HP Way has gone a bit wayward — at least according to a rising tide of negative Wall Street perceptions and business press stories.

HP WAYWARD?

Here's the short list of HP's problems: Lost its innovative edge. New products are not coming to market fast enough. Increased operating expenses. All of which has led to slower growth and lower earnings.

I touched on some of HP's recent troubles with Lew Platt during HP World. He candidly told me that HP hasn't performed well at all. "We missed our numbers pretty consistently." When was the last time you heard that kind of honesty from a CEO, much less the Chairman of the Board and President? But if the word on the Street hasn't been especially laudatory, the word inside HP has it that "Lew" hasn't been especially pleased with his crew these days. When he told me "I like a bigger gap," between HP and its competitors, I could sense the agitation in his voice. If you're a HP customer, you should be feeling what Lew Platt describes as "customer intensity" any day now. Let me know, if you are (or aren't) at intensity@hppro.com.

HP PROFILES OPEN FOR BUSINESS

Our interview with Lew Platt, fittingly kicks off a new semi-regular feature for *HP Professional* readers. Called HP ProFiles, it will feature one-on-one interviews with the people who are making it happen inside and outside of HP. Via HP ProFiles, we will bring you an interview with the HP executives and HP people within the ranks talking frankly about HP's strategies and their views and technologies, products and markets. Lew Platt is preaching "customer intensity" — if HP really wants to share it, we will bring it to you via HP ProFiles.

A CLEAN FEED WITH EDI?

In July's Clean-Cut Warehousing story I read with great interest HP's dilemma regarding the unedited data that they received into their data warehouse and then expend great effort to clean up. Hasn't anyone heard of EDI?

I am sure that the vendor list that HP receives information from is fairly static (or manageable) and exchanging a cross-reference table so that the data doesn't have to be cleaned up later would fix the problem earlier in the process. Many manufacturer's have been using EDI to exchange information for many years and it has increased the integrity of the data exchange immensely.

Simple (to complex) EDI mapping software has been available for all platforms for as long as EDI has been in wide usage. Isn't it time we started to clean up the feeds of data we receive BEFORE they get into our systems?

Ron Christensen
C.W. Consulting Group, Inc.

C2 SECURITY AND NT

First, thanks for the good NT security tips in your July Windows NT column in *HP Professional*. But I would like to suggest that you clarify the NT security rating, as it seems that you're propagating a common misperception. A quote from Nicholas Petreley's column in July 13's InfoWorld states:

> "One does not C2-certify an OS. One certifies a complete configuration, including the hardware. The National Security Agency (NSA) lists the following configurations as having been evaluated for U.S. C2 certification: Windows NT 3.5 with Service Pack 3 on the Compaq ProLiant 2000 and ProLiant 4000 Pentium systems, and on a DECpc AXP/150... No other version of Windows NT has received C2 certification on any hardware platform (Windows NT 3.51 was C2-certified in October 1996, but only in the United Kingdom)."

Note that NT 4.0 is *not C2 certified* and any NT system connected to a network would also not be C2 secure. If you have verifiable data to the contrary, that would be useful information to publish.

David Strom, Systems Engineer
Trion Technologies

The National Computer Security Center (NCSC) is the department responsible for the ***Trusted Computer Systems Evaluation Criteria*** *(TCSEC). The TCSEC is commonly known as the Orange Book and is used as the definition of C2 security. The TCSEC makes no provisions for any network security. Network security is addressed in the* ***Interpreted TCSEC****, or the Red Book.*

Regarding Nick Petreley's column: yes, you do not certify an OS, you certify a complete system. The NCSC has not evaluated NT 4. The United Kingdom does not and cannot perform C2 evaluations.

The UK also has an evaluation program called the ***Information Technology Security Evaluation Criteria*** *(ITSEC;www.itsec.gov.uk), but the United States Government does not grant certification based on their evaluations. The NCSC does state on its web site (www.radium.ncsc.com) that "if an appropriate C2 rated product is not available, that ITSEC rated FC2/E2 products be used." The UK ITSEC appears to be more aggressive about testing. The NCSC site lists three products under evaluation, the UK ITSEC lists 12, including NT 4 with Exchange Server.*

I believe C2 is best used as a guideline for systems security. Just like having a word processor doesn't mean you know how to write, C2 certification doesn't mean you have a secure system. C2 doesn't address areas such as physical security. It's what sales and purchasing people call a "lock out" spec. It's often used to lock out competitors that haven't gone through the certification process. In fact, some vendors probably believe the only reason to get C2 certified is to address doubts raised by competitors.

The bottom line: C2 is not a guarantee of security. Not having C2 is not a guarantee of vulnerability. However, it is probably easier to secure an OS that has gone through the C2 certification than one that has not.

Ryan J. Maley
Windows NT Columnist

NO SMALL ERROR

Two customers called me this morning to tell me that the July issue DOES NOT list MiniSoft 92 in the HP 3000 Resource Guide under HP terminal emulation and connectivity. It does list WRQ's Reflection and Attachmate KEA. But not us!

We are clearly the number two installed product after WRQ's Reflection for HP. We have sold HP terminal emulation into this market for over 10 years! Attachmate has had a HP product for less than two.

Doug Greenup
MiniSoft, Inc.

An editing oversight caused us to omit MiniSoft's MiniSoft92 terminal emulation product in our July HP 3000 Resource Guide. We regret the error.

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Third Quarter Shows Surprising Growth For HP

"Expanding Possibilities" may well be the new watch-word for HP (see our interview with CEO Lew Platt on page 26) but resilience seems to be the word that best describes the company's financial performance for the 1998 fiscal year's third quarter which ended July 31.

"Despite a difficult business environment and economic weakness in Asia, we managed to record modest growth in revenue and earnings," Platt says in a prepared statement. Net earnings for the quarter were $621 million, compared with $617 million in last year's third quarter. Earnings per share (EPS) on a diluted basis were approximately 58 cents on approximately 1.08 billion shares of common stock equivalents outstanding, which compared with diluted EPS of 58 cents on approximately 1.06 billion shares in the same quarter last year.

"We're not satisfied with our overall performance...which were substantially below the goals we had entering the quarter. We're pleased with the progress our people have made in reducing the rate of expense growth. In addition, our outcome on asset management was good, with particularly good progress on inventory levels and accounts receivable," he added.

Net revenue for the quarter was $11.0 billion, compared with $10.5 billion in the year ago quarter. The U.S. accounted for $5.2 billion, up 9 percent over last year and Europe's $3.6 billion in revenue rose 7 percent from last year.

FIBRE CHANNEL EXTENDS ITS REACH AND STORAGE NEWS

Fibre Channel Advances

HP announced two new capabilities it claims make it easier for companies to share information among multiple, distributed servers. First, distances of up to 10 kilometers are now supported between its Fibre-Channel-Arbitrated-Loop long-wave hubs for high-speed, high-connectivity across multiple sites. Second is the announcement of Fibre Channel Manager software, a Web-based tool for enhanced system administration of Fibre Channel hubs for simplified management of the storage area network.

New HP DLT Autoloader

Calling it the "fastest autoloader currently available," HP has announced the SureStore DLT Autoloader 718, which can function as a stand-alone or rack-mount system. The drive is designed for LAN environments using Microsoft Windows NT, Windows 95, Novell or UNIX servers with 18GBs to 70GB overall data capacity.

Terry Devlin, HP's product manager for the Storage Systems Division, says, "unlike our competitors, we offer the entire backup solution." She ticks off a list of included components: TapeAlert built-in software diagnostic tool that identifies hardware problems and provides suggestions for correction; TapeAssure software utility that allows users to verify correct installation of HP SureStore tape products; live trial software from Computer Associates, Seagate, Legato and HP's OmniBack; a PCI SCSI host bus adapter; CD-ROM-based user guide; one removable magazine with five HP DLT tape IV data cartridges; one cleaning cartridge; and SCSI cables.

In addition, according to Devlin, there will be a "black box-like" fiber interface that will convert a host's fiber channel to SCSI by connecting its fiber cable to the interface then, in turn, to an outgoing SCSI interface finally to the tape drive.

The SureStore Autoloader 718 will be available October 1 and sell for $11,495 and the fiber interface will sell for $8,995.

SureStore's DDS Network Backup Software

Every SureStore DDS system now being shipped will include a copy of network backup software from Stack Software that, according to Steve Lanbon, HP product manager from the Computer Peripherals Division, "meets the needs of single server NT installations." Included in the software, says Lanbon, is one-button backup, a drag-and-drop restore feature that lets the user view the tape as a disk through Microsoft Explorer and an install wizard that automatically checks all the relevant connections and notifies the operator of the status of all backup components.

Lanbon emphasizes that the software is not intended for multiple servers or for Autoloaders. He added that HP is also shipping an updated version of their desktop Colorado backup software that now supports Windows NT 4.0 and Windows 98.

New Tape Racks

Lanbon also touts HP's new rack mounted tape

enclosure which accepts four DLT 70, DLT 40 or DAT 24 drives and up to 280GB of data capacity. Describing it as "ideal data protection for mission-critical data center sites," he points out high availability features like two SCSI channels and hot swappable drives and power supply.

Lanbon says the ideal situation for the new system may be to connect a server's two SCSI connections to each of the tape rack's SCSI connection and two tape drives to each, allowing for the mirroring of up to 140GB of data and the removal of one set of tapes to an off-site location while keeping one set on-site.

HP-UX UPGRADES INTO THE Y2K

HP's new upgrade program will help customers with HP 9000 Enterprise Server legacy environments build a framework for the Year 2000. As part of that program, all customers running HP-UX 9.04 and 9.0 can upgrade to Year 2000 compliant versions of HP-UX.

All HP 9000 customers with support contracts now can upgrade their operating systems and HP applications and continue to have access to the most current releases of all HP software products. Customers without support contracts can receive a free upgrade to HP-UX 10.20, as well as obtain compliant versions of selected HP software products free of charge.

In addition to the operating-environment software upgrade, the program comprises additional products, services and resources to assist customers with the transition and implementation. Coincidentally, HP-UX, 10.20 and beyond, will enable business-critical applications such as high-end online transaction processing and decision-support to run significantly faster.

And, to help customers take control of their own millennium efforts, HP is offering courses on Year 2000 planning and methodology, as well as discounts on select HP-UX training courses. The courses will address implementation tactics across the enterprise and how to upgrade HP 9000 systems quickly and efficiently.

Information on the HP-UX upgrade program is available on the Web at www.hp.com/go/9000customer, for the Year 2000 program at www.hp.com/go/year2000.

> "Intel talks about a level playing field. We think a level playing field is highly overrated."
>
> Nick Earle, HP VP and Group Marketing Manager for the Enterprise Systems Group responding to a question during the Management Round Table at HP World

STRATUS ASCENDS WITH HP

Not much will change in the HP/Stratus relationship in the wake of Ascend's (Alameda, Calif.) acquisition of the Marlboro, Mass.-based manufacturer of the fault tolerant Continuum series.

Stratus is a long-time licensee and reseller of HP's PA-RISC processor and HP-UX. Ascend's plan to acquire Stratus required HP's approval to transfer their technology to Ascend, according to Paul Shuepp, Stratus' vice president of HP business development. "HP had to permit Ascend to license and buy their technology," he says. "The deal was contingent on that."

Shuepp explains that Ascend's intent is to divest of the non-telecom components of Stratus, which includes their Operations Systems Software and fault tolerant platform as well as business units comprised of Financial and Enterprise Software (TCAM and S2) into a "totally independent company." The two firms will then co-reside in Stratus' Ireland manufacturing plant and Ascend will be licensed to use HP's technology in their telecom carrier business.

Asked if the divestiture could effect on the long-term plans for the continued integration of Stratus' fault tolerant technology with HP components, Shuepp says that, "if anything, the spinoff will have us put more focus on our HP relationship...it won't have a blip on our [HP] business." He added that Stratus' plans to adopt the new IA-64 chip for their fault tolerant platform will proceed as announced.

news threads

HP's Bridge Over Networked Borders

HP is bridging the gap between device and network management by integrating TopTools 3.0 and OpenView Network Node Manager to provide full, single console control of HP's network devices, desktop and mobile PCs, printers and servers.

As OpenView Network Node Manager discovers a device, TopTools replaces the standard icon with a customized TopTools icon and an enhanced menu of action icons. Devices include Vectra and Kayak PCs and workstations, OmniBook notebooks, NetServers, LaserJets and AdvanceStack network elements.

TopTools also generates a submap for NetServer systems by adding icons for NetServer system agents that provide information about specific components including temperature, disk failures and power consumption.

Kayaks and Vectras can use the TopTools bridge for BIOS upgrade and installation, setting SNMP passwords and security settings, powering systems on and off, complete inventory management and performing diagnostics - all from a Web interface.

url:www.hp.com/toptools

HP 9000 Family Adds New Members

Two new members have been added to the HP 9000 Enterprise Server Family - the K360 midrange and the D390 entry-level. HP's K- and D-class servers powered the 1998 World Cup technology infrastructure to a flawless performance. (See our World Cup wrap-up story online at www.hppro.com.)

The K360 features up to four 64-bit PA-8000, 180MHz CPUs and up to seven I/O slots. HP is positioning it as a strong contender for Internet and e-commerce purposes and for customers who need applications servers with high I/O,

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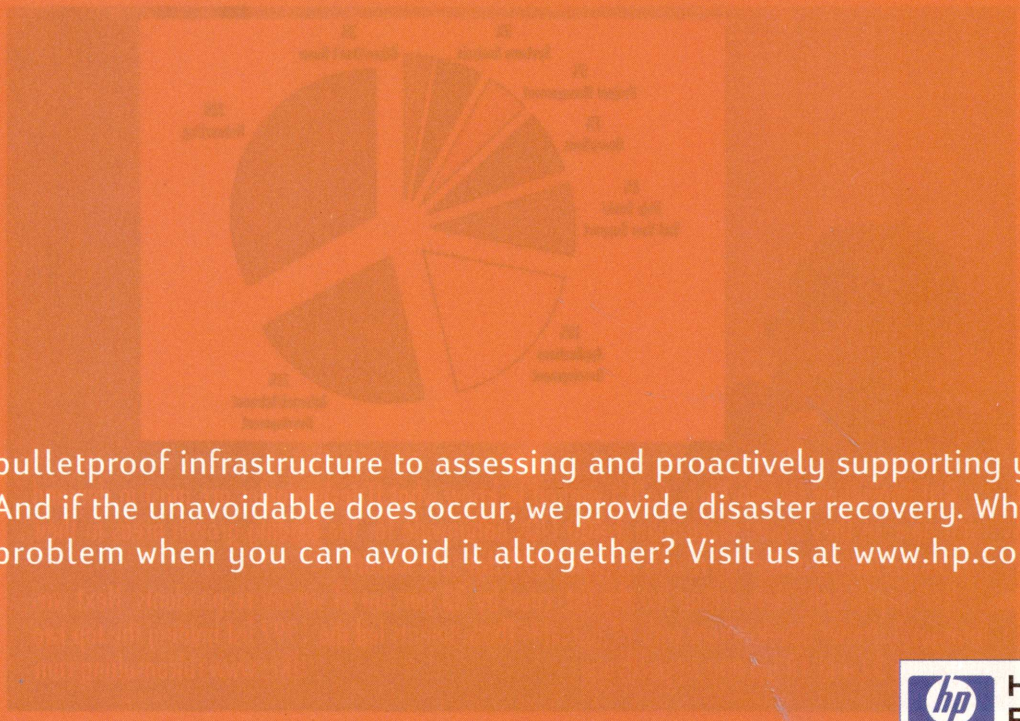

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performance and scalability.

The D390 offers one- or two-way processing with HP's top-of-the-line 64-bit PA-8200, 240MHz CPU with 4MB of cache. It features 30 percent higher performance than the D380, the current top-end of the D-Class family.

Base models for both servers sell for $29,900.

The View's Better Up Front

Re-affirming their position as lead-dog in the UNIX pack, HP announced it has secured the leadership position in the worldwide overall UNIX system server market with 23 percent market share, according to International Data Corp.'s (IDC; Framingham, Mass.) quarterly server data report for the first calendar quarter of 1998.

The company also achieved a 24 percent midrange-server market share in 1997, which represents a 26 percent year-over-year, industry-leading growth rate, according to IDC's annual market data. IDC has also attached the lead collar around HP's neck in the UNIX system disk storage subsystem category by confirming a 59 percent market share worldwide. That follows another industry-best performance of 25 percent market share in 1997, based on terabytes sold.

It's Never Too Late To Cure Y2K Bug

In case you haven't heard, the Year 2000 may cause some *minor* problems to your IT systems. But don't worry, there's still 15 months to make sure you're ready.

HP is now offering a three-day course for those Y2K procrastinators among you (and you better know who you are) that provides a practical methodology for analyzing, understanding and resolving your enterprise-wide Year 2000 problem.

The course features Ardes 2k, a knowledge-based process manager made available through HP's

HP EXPANDS PRAESIDIUM PARTNER PROGRAM

HP didn't take long expanding its recently announced Praesidium partner program with the inclusion of two new strategic entries to the growing list.

The program, unveiled in mid-July, is designed to securely protect e-business applications for new and existing customers and provide a Web-based mechanism for easy deployment of completely integrated security solutions. Several important components include HP's VirtualVault and the new Authorization Server (see last month's News & Views) combined with a certification process that optimizes ISV's use of the platforms with their standard applications.

Roberto Medrano, the newly appointed general manager for HP's Internet Security Operation, has announced that VeriSign, Inc. and GTE Internetworking have been added to the list. "We're committed to working with leading technology providers...to deliver robust enterprise security solutions globally," he says.

VeriSign brings their Global Server ID to the pairing. Global Server ID lets international banks with servers in the United States and abroad use 128-bit SSL sessions to securely conduct financial transactions without first obtaining specific U.S. Government approval. HP and VeriSign are authorized by the Department of Commerce to provide Secure Server IDs to qualified VirtualVault customer's encryption eliminating the need for them to obtain IDs themselves.

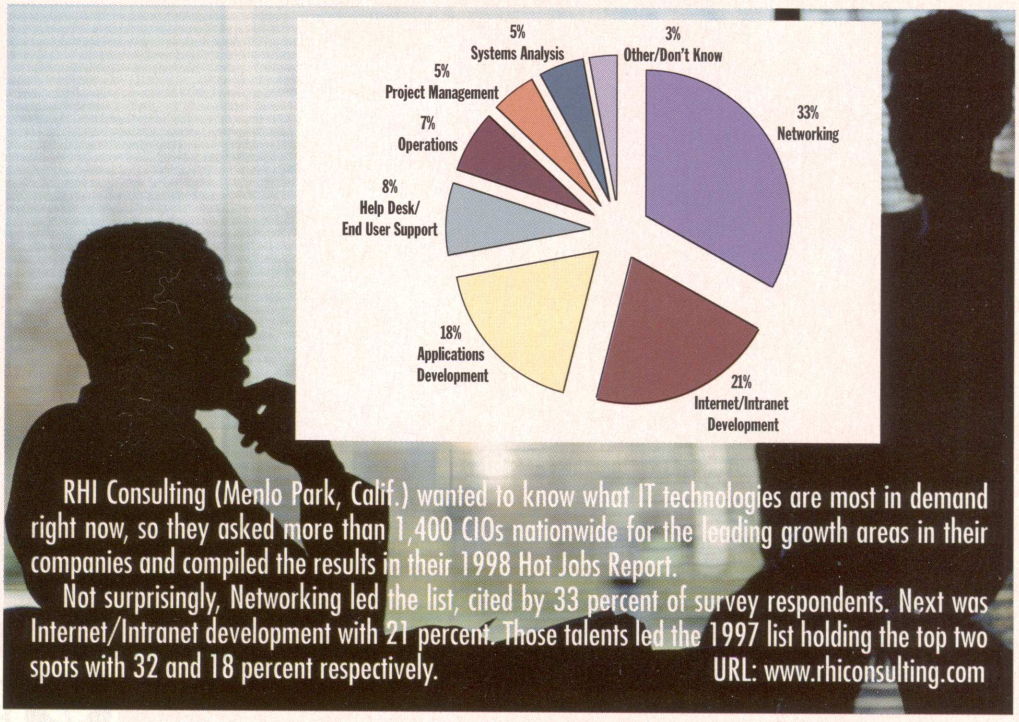
"Our companies' combined solution offers international banks a more secure solution for providing confidential information over the Internet," says Medrano.

GTE Internetwork, a unit of GTE Corp., has announced the integration of its CyberTrust Certification Authority products with VirtualVault. This combination allows more secure application front-ends by enabling organizations to identify those involved in electronic transaction via digital certificates.

"Use of digital certificates, coupled with VirtualVault, allows organizations to deploy electronic-business applications in a secure environment," says Medrano.

url:www.hp.com/go/security

RHI Consulting's 1998 Hot Jobs



RHI Consulting (Menlo Park, Calif.) wanted to know what IT technologies are most in demand right now, so they asked more than 1,400 CIOs nationwide for the leading growth areas in their companies and compiled the results in their 1998 Hot Jobs Report.

Not surprisingly, Networking led the list, cited by 33 percent of survey respondents. Next was Internet/Intranet development with 21 percent. Those talents led the 1997 list holding the top two spots with 32 and 18 percent respectively.

URL: www.rhiconsulting.com

FIREHUNTER ADDS FUEL

HP and WinStar GoodNet, a leading Internet service company, are joining forces in a marketing and R&D alliance to develop and promote next-generation HP Firehunter solutions for enhancing the quality of Internet services. HP created Firehunter specifically for ISPs and enterprise/IT to provide new ways to correlate and visualize critical network information.

> "UNIX, NT and MPE/iX will all run on Merced and future IA-64 processors."
>
> —Lew Platt, during his HP World keynote address

New York City-based WinStar is a leading national Internet access provider with points of presence in 31 major cities. They currently provide service to 450 ISPs nationwide, says Darin Wayrynen, their vice president of technology.

As part of its Firehunter premier customer program, HP searched for an ISP to work with that was an industry leader, aggressive in their adoption of new technology and steered by growth-oriented strategies. "WinStar fit that profile of an aggressive ISP in high-growth mode," says John Smith, HP's ISP marketing manager within the Netmetrix division.

Smith adds that the first products (expected the first half of 1999) from the team will revolve around VPNs. "We want to add support for more value added [Internet] services," he says. "Winstar brings their subject matter expertise to the table and we offer the measuring and management service [with Firehunter]."

WinStar's Wayrynen agrees adding that Firehunter products will give them the ability to sell better capacity planning and usage analysis features to ISPs and be "more proactive in our customer service than we've been in the past." He says to expect Beta users on the first product offerings by year's end.

HP SUPPORTPACKS THEM IN

As another in a long line of initiatives aimed at bringing resellers closer to their small- to mid-range customers, HP has announced a new class of channel-ready services for Windows NT mission-critical environments that is to include the industry's first hardware repair commitment service for HP and Compaq PC servers.

Once thought of as just hardware maintenance for some HP Products, the "HP SupportPack Family of Services" expanded to include Installation and Configuration Service. With this announcement, they've expanded again.

A new portfolio of SupportPack products combine HP's enterprise-support experience with Microsoft's technological leadership to enable resellers to support customers deploying Windows NT in the enterprise.

"Our experience supporting complex environments gives us confidence we can provide uptime in critical NT environments unmatched in the industry," says Ann Livermore, HP vice president and general manager of the Software and Services Group. "We want to extend our commitment to partner with resellers in innovative ways to satisfy customers running mission-critical applications."

HP SupportPack Hardware Call-to-repair Commitment Service provides customers with round-the-clock, immediate response and commitment to repair hardware within a maximum of six hours. HP NetServer and Compaq PC server customers are connected immediately to a certified hardware, software and network resolution engineer who can begin trouble shooting remotely and isolate the problem(s). If necessary for on-site repair, HP will dispatch a certified engineer to manage all repairs until the hardware is operational.

HP's new Scalable Services and Support includes a suite of services for hardware and software and Microsoft BackOffice applications such as Exchange, IIS, SMS and SQL Server. HP has a special agreement with Microsoft that establishes an escalation for faster response time and time-based commitments for providing hot-fixes.

url:www.hp.com/go/ha

news threads

alliance with Data Dimension, Inc. (Bellevue, Wash.). According to Elizabeth Swanson, HP Education's Year 2000 marketing manager, all students will receive a license to use Ardes 2k's over 200 steps and 250 templates that address the Y2k problem from both an IT and non-IT perspective.

url:education.hp.com.

Take Home A 12-Pack

Systems administrators are less concerned about which operating system will emerge as the industry front-runner, UNIX or NT, than about the daily reality of having each of them as cohabitants in their environment.

HP Education and O'Reilly & Associates (Sebastopol, Calif.) publishers can help with *The Complete Windows NT & UNIX System Administration Pack*, a "12 pack" that consists of O'Reilly's bestsellers, *Essential System Administration* (for UNIX) and *Essential Windows NT System Administration* plus ten HP Job Aids.

url:www.hppro.com

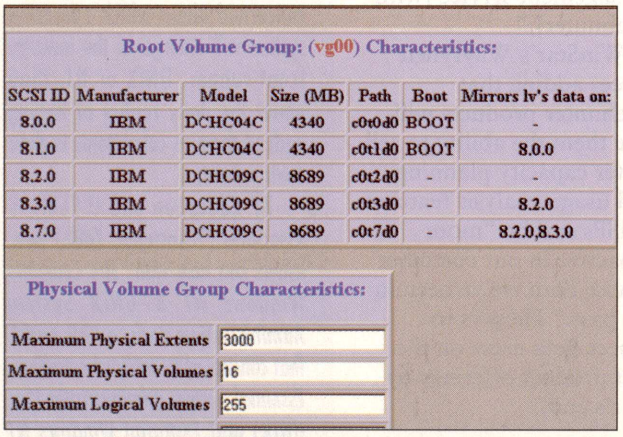
Playing Benchmark Leapfrog

In another of a seemingly never-ending TPC-C benchmarking announcements, Compaq has laid recent claim to a world record by handling 15,000 simultaneous MAPI e-mail users on Microsoft Exchange Server achieved on a Windows NT-based ProLiant 7000 at Compaq's Microsoft Competency Center in Redmond, Washington.

Compaq says this is the "highest result ever achieved, surpassing 13,800 achieved on a HP LXr Pro-8." This comes on the heels of another Compaq TPC-C record setting test of SAP, Baan and Windows NT on ProLiant 7000 and 6000 servers with new 400 MHz Intel Pentium II Xeon processors.

These records may be written on the wind, however, as HP is about to leap with their own Xeon-based NetServer this fall (see last month's News & Views). Stay tuned.

Build Bootable Backups



Root Volume Group: (vg00) Characteristics:

SCSI ID	Manufacturer	Model	Size (MB)	Path	Boot	Mirrors lv's data on:
8.0.0	IBM	DCHC04C	4340	c0t0d0	BOOT	-
8.1.0	IBM	DCHC04C	4340	c0t1d0	BOOT	8.0.0
8.2.0	IBM	DCHC09C	8689	c0t2d0	-	-
8.3.0	IBM	DCHC09C	8689	c0t3d0	-	8.2.0
8.7.0	IBM	DCHC09C	8689	c0t7d0	-	8.2.0,8.3.0

Physical Volume Group Characteristics:

Maximum Physical Extents	3000
Maximum Physical Volumes	16
Maximum Logical Volumes	255

MKSYSB

- Simplifies backup and recovery of operating system including core OS, installed patches and kernel modifications
- Creates installable image of HP-UX 10.x root volume group, vg00 and bootable recovery tape.
- Sells for $995 per server, $395 per workstation.

Compass Corporate Systems, Inc.

3105 Congress Ave.
Plano, TX 75025
tel: (972) 208-3660
fax: (972) 208 3659

AdLink

Many IS departments must make do with small staffs. In these shops any products that can help eliminate the complexity of routine tasks like backup and recovery are a welcome addition.

It's with that in mind that Compass Corporate Systems, Inc. (Plano, Texas) created mksysb, a bootable backup solution for HP-UX workstations and servers running HP-UX 10.x. Mksysb creates an installable image of the root volume group, vg00, which can be used to restore a system in the event of failure that prevents a HP-UX system from booting.

It creates a bootable recovery tape that is designed, according to David Lethe, Compass' mksysb product manager, to "restore an unbootable system with no human intervention."

Mksysb can create a backup tape without rebooting to single user mode and can be restored to a hard drive with different physical features, i.e. cylinders, heads and tracks. "Mksysb is extremely easy to configure and setup," says Lethe. "It can be done in 30 seconds."

He explains that, in disaster recovery mode, once the hardware has been repaired, the operator boots the system from the appropriate SCSI path of the mksysb tape. With no keystrokes, the system will completely restore, reboot and mount all disks and devices that were available at the time the backup was created.

Lethe says that HP's *Ignite/UX* is the closest competitor to mksysb. One important distinction between the two is the ability of mksysb to "handle systems with mirrored (RAID 1) HP-UX running" which, according to Lethe, *Ignite/UX* can't support. Mksysb also supports systems with dual-ported SCSI (or IBM SSA) disk drives.

He touts mksysb's ease of use as another difference. "You need a two day class with Ignite," he says. "We're painless, quick, fast and easy to use — for users who don't have time to go to class."

One popular use for the product is Year 2000 testing. Lethe explains that users create a "golden image" of the production server which is moved to a smaller system using mksysb, tested, debugged and rewritten on the test box then moved back to production also with mksysb.

Additional uses include adjusting sizes of logical volumes and the number of physical disks in vg00, changing the boot disk from a single-ended disk to FWD disk and creating disaster recovery tapes from a single source that can be targeted to any number of emergency servers.

Lethe adds that, because of user requests, an HTML GUI is being added in the future for ease of creating tapes. He adds that, because recovery is generally done from a dumb terminal, a GUI-based restore component is not feasible.

Mksysb sells for $995 per server and $395 per workstation with discounts available for site licenses and quantity. Unlimited updates are available to registered users at their Web site.

Ken Deats,
Associate Editor

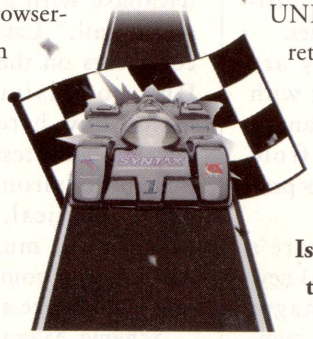
Running Into Potholes...

On Your Road to NT and UNIX Connectivity?

Running into trouble trying to integrate your UNIX and Windows NT network? TotalNET Advanced Server (TAS) software will smooth the rough road ahead.

TAS enables UNIX computers to become NT file, print and application servers. Setting up and using TAS is quick and easy, thanks to intuitive, browser-based installation and graphical configuration wizards. No additional software is necessary on the NT workstation!

NT File/Print/Application Services: NT users access files and printers residing on UNIX servers using normal NT functions. TAS also enables NT users to access NT applications stored on a UNIX server.



Common File System: Data and applications are stored in a central TAS-based server where NT and UNIX users can easily access the same data.

Transparent to the NT Desktop: The TAS server is seen by NT users as a PC server, so users do not need to know UNIX to access resources on that server. No retraining is involved.

Scalability: TAS provides file/print/application services to thousands of NT and PC workstations.

Is your current solution steering you down the wrong road? Upgrade to TAS and save substantial time and money. Call today for details!

WINNER Data Communications LAN Times BEST OF SHOW 1995 INTEROP LAS VEGAS

PC WEEK LABS ANALYST'S CHOICE TAS 5.0 June 2, 1997

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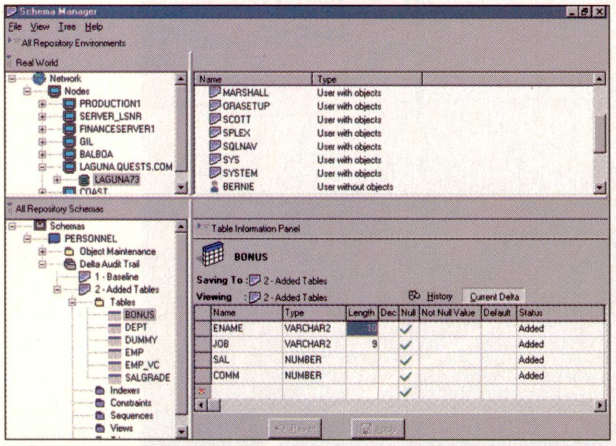
Scheming Schema Schematics



SQLAB SCHEMA MANAGER

- Automates complex schema deployments in Oracle environments from development to test to production
- Runs from Windows 95/NT console, uses SQL Net connectivity for remote connection to any target Oracle database
- Priced from $15,000 to $23,000 for first server (with schema repository), $4,000 to $12,000 for each target, managed server with unlimited consoles.

Quest Software, Inc.

610 Newport Center Drive
Suite 1400
Newport Beach, CA 92660
tel: (714) 720-1434
fax: (714) 720-0426

AdLink

Today's database administrators are faced with maintaining increasingly complex schemas. They may have to manage hundreds or even thousands of objects of many different data types, including tables, indexes, procedures and functions, all of which may be linked in to a schema by an intricate web of dependencies.

The question they are increasingly wrestling with is "How do I best manage changes in schema from development to test to production?"

Quest Software's (Newport Beach, Calif.) new SQLab Schema Manager helps DBAs automate complex schema deployment in Oracle environments. As changes are made to databases from one stage to another, it creates the "delta," or changes, generates the release and change scripts to apply those changes to the baseline.

Eyal Aronoff, Quest's vice president of product development says that Schema Manager was developed to answer three basic problems DBAs experience daily. First, with the growing complexity of database schema, manually managing changes has become close to a full-time job. Schema Manager lets them automatically "compare their development environment to development schema changes and know what they mean."

Second, it lets developers make changes to test schema as well as procedures and code and provides a "catch-all to tell DBAs what's happened to the development database with a complete audit trail." Last, Aronoff comments on the oft-heard DBA complaint that, no matter how hard they try, development, test and production environments are never identical, a conundrum that multiplies a migration's complexity as new releases are applied.

Schema Manager does a pre-audit to make sure a migration will be good through each stage and provides a post-audit to verify a reliable production environment.

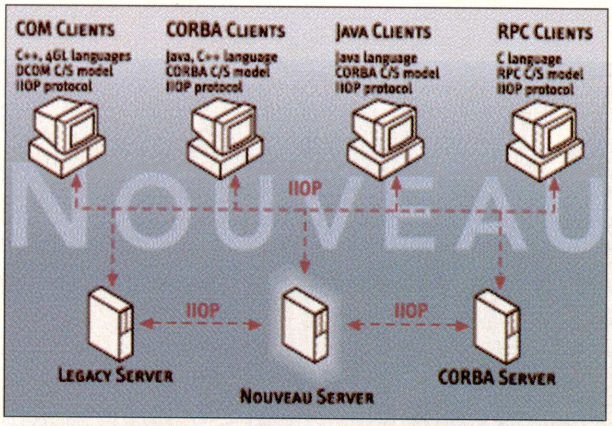
The repository supports all object types and dependencies. Drag-and-drop capabilities enable a DBA to populate the repository from an existing database environment, creating a baseline version with which Schema Manager can support changes throughout the lifecycle. In development mode, developers and DBAs make frequent schema changes directly to the development database.

To create a release, Schema Manager identifies the "delta" between the real-world production environment and the development version in the repository. It then captures all the changes that were made in development and automatically generates the corresponding upgrade script to apply the changes to the target database.

According to Aronoff, the only product that comes close to Schema Manager is Oracle's own migration option. That, he says, does "a small portion" but the DBA must still build the delta manually and there is no customization for the target environment and no complete audit. Oracle "can build the script," he says.

Ken Deats,
Associate Editor

Nouveau Riche



NOUVEAU

- Model-independent middleware that supports development of COM, CORBA, Java and RPC applications
- Monitors and manages deployment of application systems.
- Priced at $5,000 for single license — up to $250,000 for unlimited number of seats.

NobleNet Software, Inc.

337 Turnpike Rd.
Southboro, MA 01772
tel: (508) 460-8222
fax: (508) 460-3456

AdLink

NobleNet, Inc.'s (Southboro, Mass.) new Nouveau is model-independent middleware that supports the development and deployment of COM, CORBA and RPC applications. It consists of an IDL compiler development system and a CORBA 2.2 compliant runtime system.

Until now, according to Bob Blauth, NobleNet's vice president of Marketing, developers had to communicate through "bridge" translation layers, object mapping specifications, or use products from multiple vendors to connect different applications across multiple environments.

He lists several advantages of Nouveau for those developers. It integrates procedural and object-based applications with "no bridging or wrapping." Because it's a single server that supports any development model (COM, Java, and RPC) and re-compiles the IDL across platforms, it leverages existing programming skills and provides technology independence.

The Nouveau IDL compiler supports multiple IDL languages, including Microsoft's MIDL, CORBA and RPC. It can parse an IDL file and transform it into a model-independent internal data representation. A set of code generators generates client and server stub routines and makefiles for COM, CORBA or RPC applications.

According to Blauth, the Nouveau environment enables "complete mix and match connectivity" by allowing a COM client to access an RPC server. The developer feeds RPC IDL in and requests COM client and RPC server interfaces out.

To allow a CORBA client access to a COM server, the developer feeds MIDL in and requests CORBA client and COM server interfaces out. All interfaces support IIOP, a common transport protocol.

Net Numina is a Boston, Mass.-based builder of complex distributed object applications for large corporations. When charged with creating an online 401K management system for a large bank, Imran Sayeed, its principal and founder chose Nouveau as the development tool.

The application allows employees and HR personnel access to retirement records. It is based on three NT servers and Microsoft's SQLServer. Sayeed describes the environment as a DCOM front-end with a CORBA back-end.

He evaluated Orbix from Iona Technologies (Cambridge, Mass.) and Object Bridge from Visual Edge Software (St. Laurent, Quebec, Can.) but chose Nouveau because of its independence of any CORBA infrastructure. Sayeed added that, while the performance of Nouveau and Object Bridge was comparable, the "very good support" provided by NobleNet's team sealed the deal.

Asked what he would like added to future releases, Sayeed says he would like to see a bi-directional gateway that would allow them to have CORBA call DCOM objects.

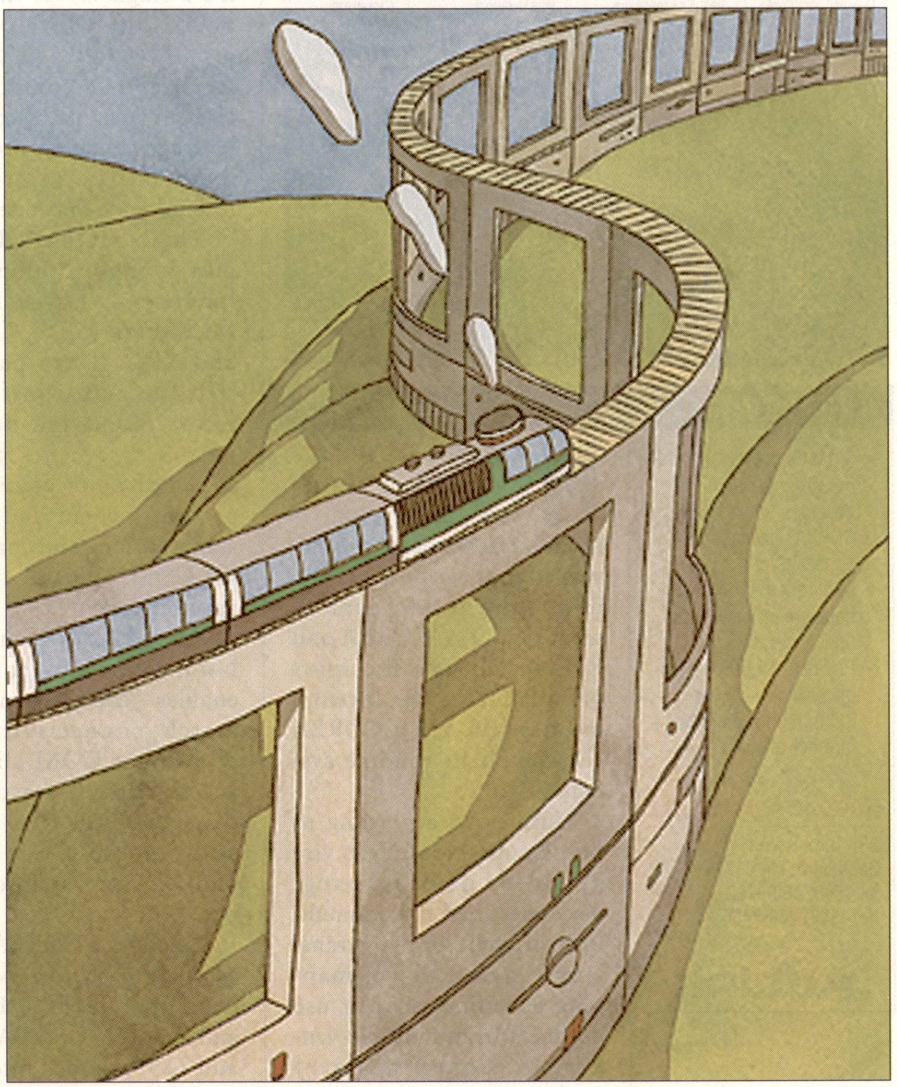
Ken Deats,
Associate Editor

On Track With Internet Certification

Find the right program to leverage the skills of a technology in flux

IT'S NO SECRET. Companies are spending millions of dollars to deploy new Internet technologies to compete in today's cyber-driven age and there's a gross shortfall of trained Internet professionals to fulfill the growing need. How do you determine what Internet certification program is right for you?

Uday Om Pabrai



As the Internet's enterprise implications continue to grow and the supply of IT professionals who understand Internet technologies becomes even more in-demand, there has been a growing appeal and industry attention to Internet skills certification. Certification has been proposed as a means to ensure the staff working on Internet-related systems has proven proficiency in the skills necessary to understand and fully leverage the technology.

While certification provides a baseline from which professionals' skills can be judged, there are no universal standards — yet. So, employers and individuals are left to question which Internet certification program provides the best proof of competence for their particular needs. Investing some time to research the certification options can pay off with a more valuable certification experience.

The most important issues are: **Credibility in the Marketplace and Expert Resources.** In researching the Internet certification programs available today, look for a program that is well-regarded in the industry and has a proven track record of professionals

who have successfully gone through and achieved certification. Endorsements from Internet industry groups such as the National Association of Webmasters (NAW), the Association of Internet Professionals (AIP) and the Institute for Certifying Computing Professionals (ICCP) are important indicators.

Specific Internet experience lends further credibility to a certification program. Again, check with industry associations and with customers who have taken the program to determine value and overall fit for your company's certification and training needs. A good certification program has been in existence long enough to have passed several professionals through differing levels of Internet skills certification and offers comprehensive training to prepare students to take the certification exam.

Independent Testing. Certification credentials carry more weight if testing is conducted by an independent third-party, adding a level of objectivity and raising credibility of the certification. By placing the testing responsibilities apart from certification/training companies, a sense of propriety is maintained, removing any questions about testing procedures. Third-party testing also eliminates the possibility of a certification/training company directly tying certification to the purchase of training courses.

Independent testing companies such as Sylvan Prometric (Baltimore, Md.) can be good sources of certification information and alternatives. Sylvan Prometric provides testing on a wide variety of topics including product-specific Internet certification for Novell, Microsoft and IBM as well as vendor-neutral, Internet skills certification.

Full Service Certification and Training. Many experienced Internet professionals could pass a test to earn certification without training. On the other hand, an Internet novice needs to start with the most basic kind of training before working up to Internet skills certification. Most fall somewhere in between the two extremes.

Steer away from programs that require mandatory training to qualify a student for certification. If a student already possesses the Internet skills necessary to prove competency, he/she should have the opportunity to "place out" and omit unnecessary training. If training is needed to fill the knowledge gap, look for a training alternative that can address all the levels of Internet skills competency, from basic to the most complex technical skills.

A wide range of training options based on a sound curriculum with

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Job Role	Description
Internet Administrator	Manages and tunes corporate Internet and intranet infrastructure including DNS, FTP and Web server systems for medium to large-sized businesses.
Internet Network Professional	Defines network architecture and infrastructure components; monitors and analyzes network performance; designs, manages and troubleshoots corporate enterprise TCP/IP networks.
Internet Security Professional	Defines, develops and manages corporate security policy; analyzes security mechanisms such as firewall systems and attack recognition products and technologies; manages the deployment of security solutions.
E-commerce Professional	Defines, develops and manages e-business policy; analyzes electronic commerce standards, technologies and product alternatives; manages the deployment of electronic commerce solutions.
Web Designer	Creates and maintains Web pages using languages such as HTML and XML; works closely with content creation and content management tools.
Internet Developer I	Develops Web applications using scripting languages and Java; understands Web-user interface design principles.
Internet Developer II	Develops and implements solutions for integrating the back-end database system with Web applications for real-time access to customer or corporate information.
Java Programmer	Develops Java applets and applications and creates graphical user interfaces based on Java standards such as JDK and the event model.

expert instruction ensures that various levels of the organization can achieve Internet proficiency. And it facilitates a focused approach to pinpoint the training need, saving both class time and money, while creating the most efficient path towards earning your certification.

A clearly drawn "certification track" can be an extremely useful tool to map out the cost, time and number of courses needed to be prepared for specific certification testing. The investment can range from as little as $150 for a third-party certification test to around $300 for a simple supplemental course to more than $2,000 for a multi-course package that can cover a full week of training and testing time.

Real-World Applications. In preparation for certification, lectures and learning from books can be valuable, but for a true sense of how knowledge will be transferred to usable skills, look for hands-on training that makes the subject come alive. To take interactivity out of the learning equation would be a mistake, so look for courses that move beyond theory and actually apply the needed skills.

By creating a curriculum that comes from real-world cases, an individual is one step closer to applying the certification when the class is finished. Most course outlines address

the sophistication of the hands-on experience. If in doubt, ask for specific descriptions of the interactive features. For instance, for an e-commerce course, ask whether the class work is being applied in an actual Web site environment, or if the classroom examples will be hypothetical exercises.

Understanding the concept of product-specific certification is simple; it's a certification that proves competency on one version of software or a series of specific software applications. The vendor-neutral approach to certification places professionals and businesses on firm footing in the overall context of the Internet because it focuses on a broad range of skills, as opposed to specific products, which are likely to be replaced by new products or upgrades.

Because the Internet is comprised of various platforms and products, this big-picture perspective is necessary to build a clear path through the electronic maze and apply that knowledge to leverage all its capabilities.

A clearly drawn "certification track" can be an extremely useful tool to map out the cost, time and number of courses needed for certification testing.

When coupled with vendor-specific certification, like those developed by Microsoft, Netscape and Novell, vendor-neutral training raises the level of overall comprehension and competency. Vendor-specific certification is not recommended to stand-alone since products have ever-changing life cycles. Focusing only on product certifications leaves students at the mercy of the market's need for those products. These guidelines will help illuminate the path to meaningful certification, a never-ending process.

Degrees change and grow in the academic community, and certification will continue to advance as Internet technology advances. Keeping up with the pace of change is a challenge for everyone and certification can help businesses and professionals synchronize abilities and expectations in this ever-changing market.

—Uday Om Pabrai, chief technology officer and vice chairman of Prosoft Internet Solutions, developed the industry's first Internet certification credential. To discuss certification alternatives with Uday, contact him at pabrai@prosofttraining.com.

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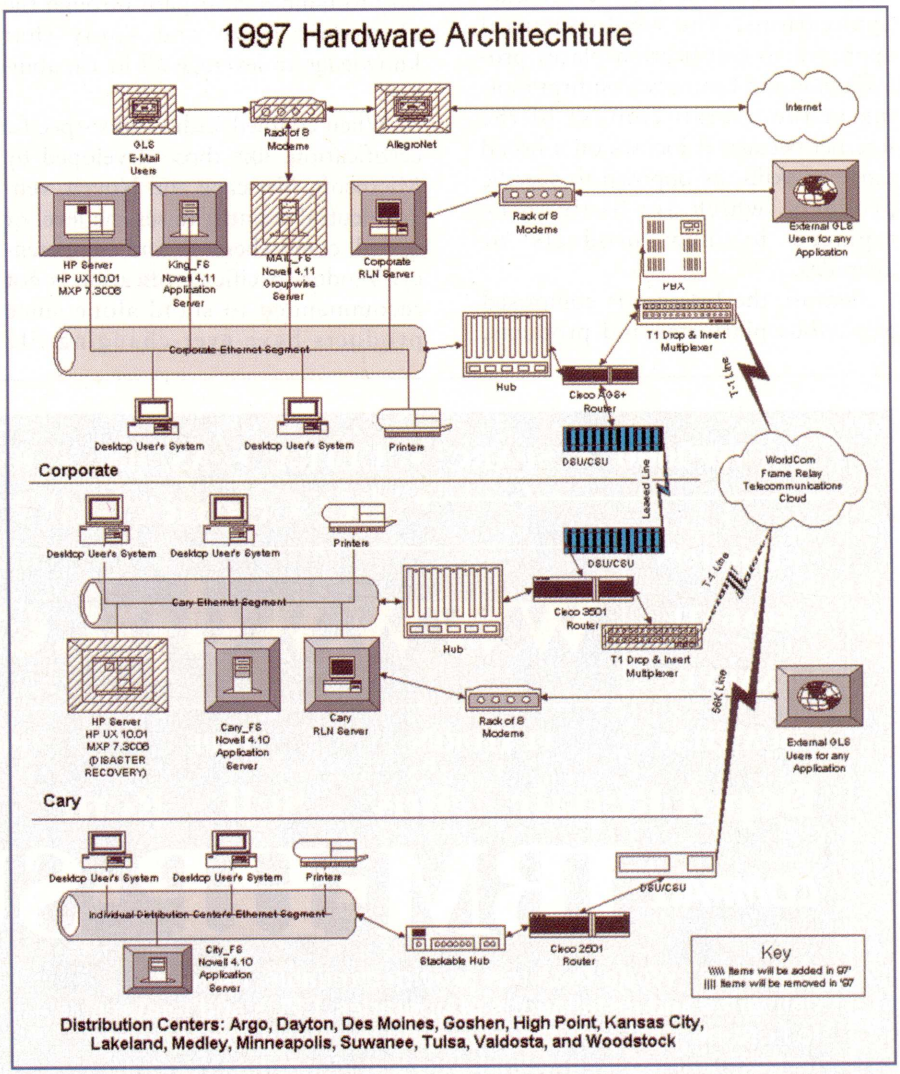
Miles To Go, Promises To Keep

IT Supports Customer-Driven Solutions

AS DATABASES FILLED, GLS Corp. experienced major operational headaches. Their systems, including sales, financial and accounting crashed every time the total number of users peaked, often on a daily basis. After migrating its enterprise operations to an open, distributed system, GLS' IT management looks back.

John Walles



In the early 1990s, GLS Corporation (Arlington Heights, Ill.), a manufacturer of composites, elastomers and specialty polymers, faced a now common business dilemma — company growth quickly outstripped the capabilities of its manufacturing systems. The company's revenues had nearly tripled since installing and basing its operations on a Unisys System 80 mini-computer in the early 1980s.

With business booming through the 1990s, GLS executives and IT managers decided to migrate all operations to a client-server architecture. The aim was to build a reliable systems infrastructure while ensuring much needed flexibility for future development. "Having this capacity to upgrade systems as business conditions dictated was absolutely essential," observed Steve Dehmlow, president and CEO of GLS. "It was on this point in particular that client-server appeared to us as truly distinguished from the same old way and would lift us from the same old unsatisfactory results."

GLS began by implementing the MXP Enterprise Resource Planning (ERP) application from Foresight

Software, Inc. (Atlanta, Ga.). MXP is popular among mid-sized manufacturers because of its functional capabilities achieved with the use of selected modules. MXP was highly appealing to GLS because of its use of Progress Software Corporation's (Bedford, Mass.) 4GL that, combined with additional tools and RDBMS technology from Progress, made the overall ERP solution easily modified on an as-needed basis.

Special K

After having used servers from another vendor, GLS ultimately selected HP 9000 K210 as an application server with HP network servers at each distributed location to support the new system. The solution that gelled from Foresight, Progress and HP was designed to enable GLS to change their business model and apply technology to processes never before automated. It was significant that the Progress foundation was tuned for fast development of new applications while still able to integrate packaged applications that company users found effective.

Because of the company's operational constraints, testing at a single location was impossible. The company had to simultaneously cut over twelve new distribution centers, complicating the training arrangements for these geographically distributed operations.

Live In '95

The new system went live in December 1995. Easing the pain of integrating the new platform, GLS took several steps to make the transition smoother. In one step, they solidified the transition with project management consulting from Stratis Corp. (Walled Lake, Mich.). In another, they arranged for application module customization specifications from OPTIONS Software & Consulting Inc. (Burlington, Ont., Can.) who coded the initial modifications and provided critical training.

Lastly, throughout the transition and deployment period, the IT organization asked department managers for regular progress reports on how the system was living up to its promises.

For GLS, not only were the stakes high, so too were users' expectations, both initially and thereafter as various upgrades were implemented. Along with the immediate, urgent need to improve the old system, the company was changing rapidly — in several of 1993's quarters revenue was up 20 percent — so long-term flexibility would be the ultimate measure of success.

In 1998, GLS is evaluating the promises of client-server. It appears that Progress' proposed improvements in the early days remain true to form.

The first question they wanted answered was "How well did the infrastructure support the company's continued growth?" GLS, in fact, strengthened its position as a market leader throughout the decade. In this highly competitive, very focused marketplace, this achievement clearly would not have been possible with the Unisys mainframe or with a host-based paradigm.

The systems are effectively supporting company users and processes that now supply composite fabricators with product lines from over 90 of the industry's most respected suppliers. With 18 stocking locations strategically located throughout the Central and Southeastern United States, GLS' Composite Distribution Corporation is able to market itself and operate as a local supplier in 22 states, offering localized product warehousing, customer service and sales support to its customers.

Meanwhile, GLS' Thermoplastic

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PROMISES KEPT

GLS sees three advantages of the client-server architecture it implemented:

Reduced overhead costs. With the client-server environment, GLS keeps overhead costs at a level significantly below that of the mainframe. This helps GLS keep operating costs lower than competitors at a time when profits are pennies per product ton and margins mean everything.

Flexible operational support. The solution is continually tuned to GLS' business. For example, an initial enhancement to one application enables handling of inconsistent units of measure, something competitors can't do. GLS can stock material on a per-pound basis and sell it on a per-pallet, -roll or -drum basis. The company has also added a decision support database system to the network. This enables business managers to sort data and experiment with ways of evaluating their business units down to the distribution center or sales territory level. Interoperability of these reporting applications with desktop applications enables users to download information into a Microsoft environment and create advanced spreadsheets using familiar tools.

Proactive approach to systems development. GLS' IT Group has become one of the major drivers in supporting the customer focus of the business. As the group succeeds in one application area they move on to improve others by working with users throughout the company as needed and leveraging off-the-shelf software wherever it's beneficial. Users are continually finding ways to use applications for improving processes, increasing the speed of processing orders, identifying trends and relaying information about the customer to the customer service team.

While the amount of cultural change involved with all new business processes had been under-specified in the initial evaluation, day-to-day operations was smoothly working again within 12 months. With six more months of usage and watching the company's users proactively find ways to do things, management was satisfied that the new system was thoroughly integrated into the business.

—J.W.

Elastomers Division, a provider and distributor of custom styrenic thermoplastic elastomer compounds, continued evolving Foresight's MXP manufacturing software to support an expanding business. The division's success at enhancing and using the system to underpin that expansion has been proven as they are moving to a new 60,000 square foot state-of-the-art production facility at the end of 1998.

Hal Greene, director of Information Systems for GLS, is upbeat about the company's transformation, attributing a big portion of it to client/server's flexibility. "GLS established a dynamic systems infrastructure," he says. "It not only supports us in the present, it encourages new programming for future benefit. Fueling the creativity of internal developers, in fact, it is truly one of the key drivers of our growth."

Two other GLS organizations benefited from the changes as well. The Great Lakes Terminal & Transport Corporation and GLS Transportation, Inc., who provide transport services to the chemical industry, have used the system and supporting HP server network backbone to communicate more effectively with their customers.

One early concern was reliability. The tendency of the prior system to crash just when the workload was heaviest left IT planners constantly monitoring CPU performance and disk capacity. "We've been hearing about service level agreements recently," says Greene. "But at the time we were evaluating hardware platforms, all we had to go on was HP's hardware data sheets and notably, what other customer-users reported, which confirmed our choice of an HP 9000 K210."

Payback Time

Over time, it provided such cost-effective operation in support of the enterprise that GLS purchased a second one. "The second [server] provides a custom disaster recovery system in Cary, Illinois. With the use of an effective frame relay provider," Greene says, "we now have the ability to completely recover in four hours if the primary system or building were completely destroyed. We found it was more cost-effective to buy two HP 9000 K210 machines than to contract for disaster recovery. The payback is less than two years."

Has GLS taken advantage of application flexibility? Since moving to the new platform, they have rolled out new applications across all areas of the business. Among these are customer service, sales and operations systems. All are being regularly enhanced in line with changes to the business. Some unique accounting applications have also been developed, again using Progress' tools and database to accommodate unusual characteristics of the company's polymer products. The company periodically adapts its financial and accounting systems on an as-needed basis.

—John Walles is chief financial officer of GLS Corporation.

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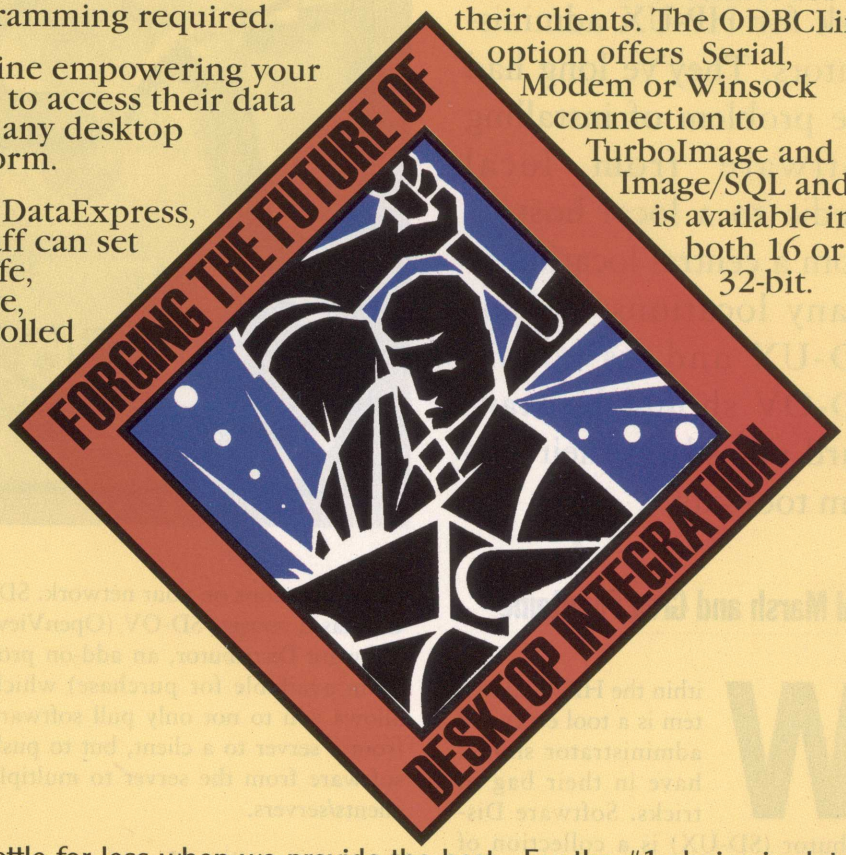

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SD-UX And Software Management

Easing The Push/Pull Tension of Distribution

SOFTWARE DISTRIBUTION has long been an arduous task for HP-UX administrators. They've long had the problem of installing software from local media to a local host or from a central location to many locations. Maybe SD-UX and its cousin SD-OV should be standard utensils in their system tool kits.

Hal Marsh and Greg Fountaine

Within the HP 9000 system is a tool every HP administrator should have in their bag of tricks. Software Distributor (SD-UX) is a collection of programs used in HP-UX 10.x to perform all software management tasks. It's a standardized tool-kit that conforms to the Portable Operating System Interface (POSIX) standard for packaging software and utilities related to software management.

SD-UX comes bundled with HP-UX. It allows you to not only install software from local media to a local host, but to distribute software from a central location to multiple client-server locations on your network. SD-UX has a cousin, SD-OV (OpenView Software Distributor, an add-on program available for purchase) which allows you to not only pull software from a server to a client, but to push software from the server to multiple clients/servers.

Depot Delivery

SD-UX uses the term "depot" to define a collection of programs or packages. A depot can be on a tape, CD-ROM, or local or network disk. All 10.x HP-UX software (i.e., Mirror/UX, GlancePlus, NNM and others) is extracted with SD-UX and contained within depots. Patches can also be delivered from a depot.

SD-UX performs software installation through the following four operational phases:

Selection — Select the source and software you wish to load during this phase. The source can be local or network media available from any host that has depots.

Analysis — All kinds of checks are performed, including free disk space, dependencies, compatibility and mounted volumes. Among the useful outputs of this phase is a calculation of the amount of space the software you're loading will consume on each logical volume.

Load — After you're satisfied with the analysis, proceed with loading the software.

Configuration — It's possible that the software you're loading requires kernel rebuilding and a system reboot. Startup and shutdown scripts might

also need to be modified.

All SD-UX commands can be invoked from the command line. In addition, **swinstall, swcopy** and **swremove** commands offer an interactive graphical user interface (GUI) with windows and pull-down menus, or a text-based terminal user interface (TUI) where screen navigation is done with the keyboard.

Central Depots

Using SD-UX to manage and install software to local systems (one at a time) is intuitive, but very time consuming. One way to save time is to create and register depots on a central server. These depots contain software filesets such as new software, patches and custom software. This allows you to pull your software down to clients from your central server. **Swcopy** is the utility that creates and registers depots.

Below is an example of how to create a depot from a CD-ROM to the local system — the depot can then be made available to all systems on the network. This example only scratches the surface of functionality you have with SD-UX.

The first step when loading software from CD-ROM is to insert the media and mount the CD-ROM.

```
mount /dev/dsk/c0t2d0 /cdrom
```

where **c0t2d0** is the SCSI address of the CD drive and **/cdrom** is the mount point.

```
swcopy
```

brings up either a GUI or a TUI depending on your terminal type.

With the SD-UX Copy window opened, go to the *Actions* menu and select *Add Targets* (the target is the host and directory location for the depot). This brings up a window to enter the host's name. After adding the host name, click on the button to bring up another window.

Here you need to enter an empty directory name's entire path (the directory does not have to exist) which becomes your depot. Select *OK*, close the window and click on the *OK* button in the *Add Targets* window.

Next, select the *Actions* menu again, this time clicking on *Show Software Selection*. Enter the mount point of the CD-ROM (in this example **/cdrom**) in the area for *Source Depot Path* and select *OK*.

This brings up all the bundled filesets on the CD-ROM. A bundle might comprise products, subproducts and filesets. Select *Open Item* from the *Actions* menu if you want to drop down one level to see the subproducts or filesets.

After you have marked specified items for copy, select *Run This Job* from the *Actions* menu. This starts the analysis stage, after which you can check the Logfile or Disk Space to get more information about the copy and your disk requirements.

From Host to Client

With this new depot created, you can pull software from that host to a client by editing two files on the client and one on the host. The first on the client is */etc/host*. Make sure that the host name and IP address are in this file. The second is */var/adm/sw/defaults.hosts*, which probably has not yet been created. If not, create it with the following lines:

```
swinstall.hosts=hostname
swinstall.hosts_with_depots=hostname
```

where hostname is the name of the host containing the software depots.

Finally, enter the client's name and IP address in */etc/hosts* file of the host machine.

The Software Pusher

Although this procedure decreases the time it takes to install software on clients, it still requires the system administrator to physically work at each client. As mentioned earlier, HP offers a product SD-OV, which allows you to push software from a host to clients over a network without ever leaving the host machine. SD-OV also allows you to automatically schedule off-hour distribution to minimize network impact.

SD-UX provides a coherent framework for effectively managing software at the enterprise level. To find out how to implement them in your environment, refer to HP's LaserROM and manpages or consult with a knowledgeable systems integrator.

—Hal Marsh and Greg Fountaine are systems engineers for Strategic Technologies (Cary, N.C.). Reach them at www.stratech.com, *or* info@stratech.com.

A CONVERSATION WITH LEW PLATT

George A. Thompson

IT'S A FACT: HP has taken its lumps on Wall Street this past year. In the face of overall slower revenue growth and lingering problems with expense control, HP's stock price is down (as of this writing) approximately 36 percent from its 52-week high. As a result, HP's top executives were asked to take a five percent salary cut. But the first week in August, 3,000 miles away from the cold shoulders of Wall Street (on Harbor Drive to be exact), at the San Diego Convention Center, HP was warmly embraced by its HP 3000 and HP 9000 users at the annual HP World '98 Conference and Expo.

During his opening show keynote, Lew Platt, HP's chairman, president and CEO, spoke about HP's vision for an Electronic World, HP's commitment and new initiatives in the UNIX market and its goals for pushing NT up into the enterprise. And staunch HP 3000 users were congratulated "for their loyalty as well as their energy in letting us know their concerns over the years." Their reward: HP officially declared that IA-64, HP and Intel's next generation CPU architecture, was going to be part of the next generation of HP 3000 too.

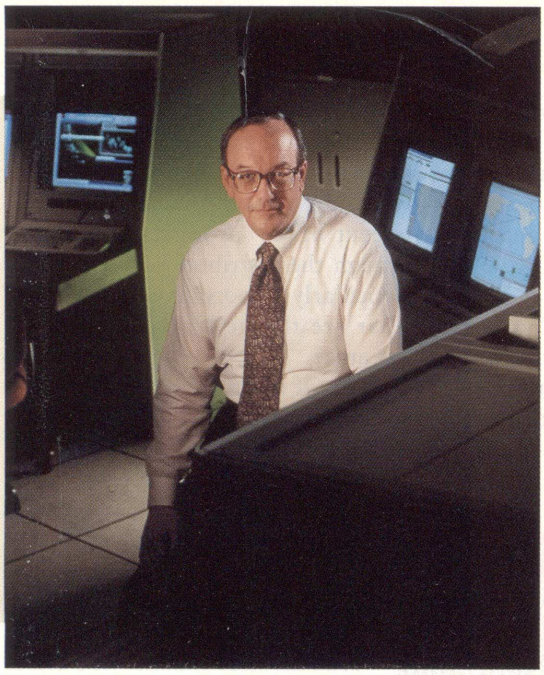
After his keynote, Mr. Platt was gracious enough to spend some time with *HP Professional's* Editor-in-Chief, George Thompson for a wide-ranging discussion regarding HP's short-term corporate performance, thoughts on HP's long-term strategic thinking, insights about HP's competitors as well as his "surprise answer" when asked about the "HP 3000 Renaissance."

HP Pro: You were quoted in a *Business Week* (July 13, 1998) article as saying, "Competition has closed the gap. Execution just isn't what it used to be." What did you mean by that?
L. Platt: Our internal surveys, as well as virtually all the third-party surveys that I see at least, still show HP with the lead in customer satisfaction. That's really what I was talking about. The good news is we're still the leader. The bad news is the gap between HP and the people who follow, the other companies, has been closed in virtually all categories. I don't like that very much.

You can find some areas where HP has improved [in customer satisfaction] and competitors have still closed the gap. I like a bigger gap is what it comes down to. So, I'm trying to prod people inside HP to move forward and really build some customer intensity. That's the word I'm starting to use — customer intensity — a really intense and deep interaction with customers. I believe if we have a more intense relationship and deeper understanding of what customers want, then we can widen the gap.

HP Pro: So, in effect, you're kicking it up a notch.
L. Platt: Yes. That's exactly right.

HP Pro: What about the recent perception that HP has lost its "innovative edge?"



"I like it every time a vendor puts up the white flag and says we can't make it in the hardware business anymore. It's just one less competitor."

L. Platt: I don't buy that. Clearly, our financial performance hasn't been terribly strong over the past year or so. There's no question about that. We missed our numbers pretty consistently. But when I look at all the reasons for it, I don't see innovation as the [cause].

I look at personal computers; we innovated a lot there. We moved up very consistently, as a matter fact. I would argue that we probably moved up consistently in the rankings in terms of number of PCs sold faster than anybody would have thought, if that were [measured] on the basis of innovation.

If you look at the server product lines, I would say we've rekindled some of the innovation and performance leadership in that area. In the printer area, we just rolled out a brand new ink delivery system, which is quite revolutionary. It cost us billions of dollars in investment.

HP Pro: It seems that many of the innovation critics are overlooking HP's development of the IA-64 architecture.

L. Platt: It's incredibly innovative. And that's one of the reasons for the [production] slip. It's a hard program. But again, until it's out, and until it has proven what it can do, it leaves us in a funny position. Right now, it just represents a big investment without any return. But that's something we're having to live through right now.

We went through it in the mid to late 80's when we were the first to bring RISC to market. The years — '86, '87, '88 — were not easy years for the company because we were making huge investments in RISC technology without getting much return.

That's like the issues we have today. We continue to keep the PA-RISC architecture fresh — we just introduced very competitive products — at the same time we are making a huge investment in IA-64 and haven't got anything to show in the way of revenue. It sounds like an excuse. But because we are stepping up to the next generation of innovation, we get punished for it a little bit in terms of short-term results.

HP Pro: Down the road, I see IA-64 as aiding HP's move away from hardware to software.

L. Platt: I think it will. But there are a lot of people in our industry right now — I call them failed hardware vendors — running to build support capability, and it's probably not a bad move for them. They'll probably become system integrators.

Yes, we are working on that broad range of support services. We think it will be a great growth opportunity. But we are not going to lose our intensity around hardware. We intend to be a really tough hardware competitor in the future.

I like it every time [a vendor] puts up the white flag and says we can't make it in the hardware business anymore. It's just one less competitor.

HP Pro: Measurement, Communications & Computers or MC² was an HP theme for awhile. But this morning, during your keynote, you talked about "Expanding Possibilities." Is MC² still a theme for HP?

L. Platt: Oh sure. If you look at the telecom market place, there are lots of examples to be found of complete solutions we are delivering to customers of our acceSS7 Solution, which is basically a Signaling System 7 analysis system, which is a really good example of a comprehensive measurement and computing solution we deliver.

Quite clearly, MC² is still alive. [But] MC² doesn't make a particularly good tag line. It's not a particularly good way to brand your company. So, *Expanding Possibilities* is really about branding. It's about setting an expectation of what you can get when you deal with HP. Going back to something like GE's, "We bring good things to life," I don't know what that means, but you get a warm feeling about it. I think "Expanding Possibilities" is the same thing.

"Expanding Possibilities" really talks about how you deal with HP and if you buy HP products, this is going to help you expand the possibilities of what you can do. So it's a much better tag line. A much better theme around which to build brand recognition. Of course, building brand recognition really has to be done in the consumer space. The whole notion of MC² probably doesn't have a lot of currency in the consumer space.

HP Pro: So, it's fair to say that while MC² drives the company internally, "Expanding Possibilities" is the external message.

L. Platt: That's probably a very good way of putting it.

HP Pro: Speaking of marketing concepts: Why do you think HP has had

such a hard time shedding its bad marketing image?

L. Platt: I don't know. We're a company that's conservative in terms of not talking about things until we've actually done them. I've had some people already come up to me [during the show] and say, "Gee, I didn't realize HP had ALL this stuff going on in the Internet space. We thought you missed it."

We haven't missed it. We just didn't go out and start talking about stuff we didn't have. We really didn't start talking about what we had until we had it. So I think the somewhat conservative approach is what leads to that.

I'm also not a big sound bite person. Scott McNealy is famous for handing out outrageous sound bites. We're probably not ever going to be that way. I guess that has a lot to do with it.

When I look at the real marketing we've done, the TV advertising that we did around "Expanding Possibilities," I think it was first rate. And we were really recognized for first class marketing. But it's probably still a tad bit more conservative compared to other companies.

HP Pro: You mentioned that branding is important in the consumer space. Is that to say that branding isn't as important in the business space?

L. Platt: Branding is important everywhere. I think "Expanding Possibilities" works just as well in the business-to-business space. But you can't establish a really strong brand unless you invade the consumer space as well.

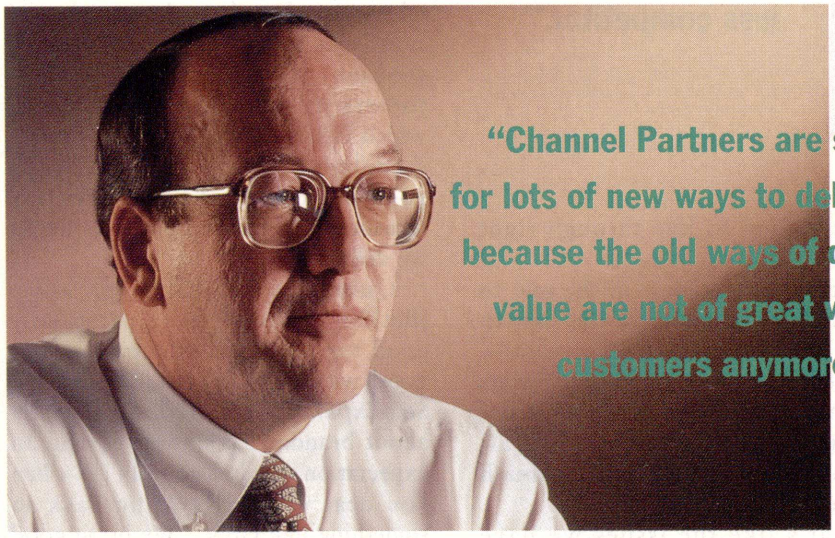
HP Pro: You mentioned in your keynote, referring to the "Electronic World," that "Maybe we haven't done as well at telling that story as we have at creating it. We're determined to change that." Can you elaborate?

L. Platt: You're going to see us turn up lots more places. Lots more keynotes. I'll give you an example. This year, I've already keynoted, three, four, five meetings. Places you would not expect HP to show up — Internet World, for instance. So, [I'm] just trying to get the story out. [It's about] more visibility on the part of myself and other HP senior executives in terms of giving speeches, being present. Having the HP name there.

We also stepped up our advertising quite a bit. If you think about it, you've seen quite a bit more of HP everywhere — more than you've seen in the past.

HP Pro: Are you practicing your sound bites?

L. Platt: I probably need to take some lessons from my buddy, Scott and start saying absolutely outrageous stuff.



HP Pro: One of the issues that *HP Professional* is continuing to focus on is the change taking place in the distribution channel. And with up to 60 percent of HP products now going through the distribution channel, it's particularly important to customers. What are the next steps for HP in that area?

L. Platt: Of our total dollar volume, I wouldn't be surprised if it's closer to 70 percent today.

There are clearly some new channels emerging. The Internet model is an example of a new channel that I talked about [during my keynote] that we're experimenting with. I call it a semi-indirect channel. It's direct with HP, but it's still not direct-to-direct person contact. So that's emerging. And that's certainly one of the most important things that is going to happen over this next year.

Second, there's a lot of changing channel relationships. The traditional Channel Partners are having to rethink their business models; having to rethink how they add value. And HP is working very closely helping them to reengineer their value added. For example, channel assembly, where instead of just being a storefront where HP goes to get product, it will be an extension of our selling organization. Our Channel Partners are now actually becoming the last step in manufacturing. That's a new value added place for them in terms of what I would call mass customization close to the customer.

We are in the process of building kiosks with Circuit City. This is a new channel in a way. This is not exactly a retail model where you walk into Circuit City and look at the three models that they happen to have on the shelf. Now, you walk into Circuit City and yes, they have limited hardware there. But you'll be ushered into a kiosk — with help or without help — where you can actually work your way through a program that's been setup by HP that will allow you to custom configure your product.

So, the channel is in what some people might say a state of turmoil

right now. It's in a state of very rapid change, to say the least, as Channel Partners search for lots of new ways to deliver value because the old ways of delivering value are not of great value to customers anymore.

HP Pro: It seems that other vendors are imitating the HP model.
L. Platt: In the channel — yes. We've been the near dominant channel player. Certainly with our printers, we were quite dominant in establishing the channel. We have a lot of people who are trying to come into the channel today. And at the same time, we have players like Dell and Gateway who are trying to go direct. Obviously, with quite a bit of success. So, that says to us we've got to look at that model too. Then you have to figure out how to fit together a direct program with a channel program; so, that's a very challenging area right now.

HP Pro: What about Compaq?
L. Platt: Wait and see. They have huge integration tasks ahead of them. It's way too early to say how it's going. Based on their last financial report, [Compaq's] underlying core business wasn't very strong. You had to take that financial report apart to understand it, but the core business — the old Compaq — was actually down. Their revenue was down year-to-year, so that's not a very good sign. Never mind all the challenges with [the Digital] integration.

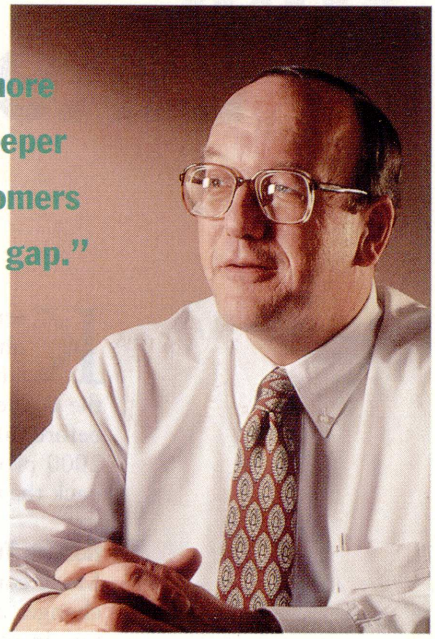
I have lots of respect for Compaq and Compaq management and what they can do and the capabilities that DEC brings them. Over the long haul, if this integration is something that can be accomplished, they'll be a very strong competitor. But they got some very hard stuff ahead of them.

HP Pro: Is there one specific area regarding Compaq that worries you in particular?
L. Platt: If they are able to take advantage of all the things that DEC understands about the enterprise customer; how you serve the enterprise customer with complete solutions; how you support that customer after the sale. That's the value that they picked up with DEC.

DEC had a lot of capabilities. They always knew how to do things pretty well, but over the last several years, people had given up on them. People had lost confidence. Compaq, with their strong brand and strong track record, brings back confidence. If they can manage to take that skill and understanding that DEC had and rebuild customer's confidence in it, then they are going to be a strong competitor. But that's really hard work. I think they have some tough quarters ahead of them.

But I have a lot of respect for them. It would be absolutely stupid — and that's one of the messages that I continually give inside HP — it would be absolutely stupid to assume that [Compaq] is not going to be able to make it work. We should get ourselves ready for the battle; post a very good integration. Then if it doesn't happen, why, that will be great. But it's bad to assume that it's not going to work.

"I believe if we have a more intense relationship and deeper understanding of what customers want, then we can widen the gap."



HP Pro: Did the growth in the HP 3000 market surprise you?
L. Platt: It actually did. Our predictions for the 3000 were that it would go away at a certain rate. And that hasn't happened. What has happened is that the 3000 customers have proven to be a much more loyal group. But it's not just loyalty. I assume it's been for sound business and economic reasons that they have migrated more slowly than we expected away from the 3000. So, that was a surprise. That rate of change was different than we predicted.

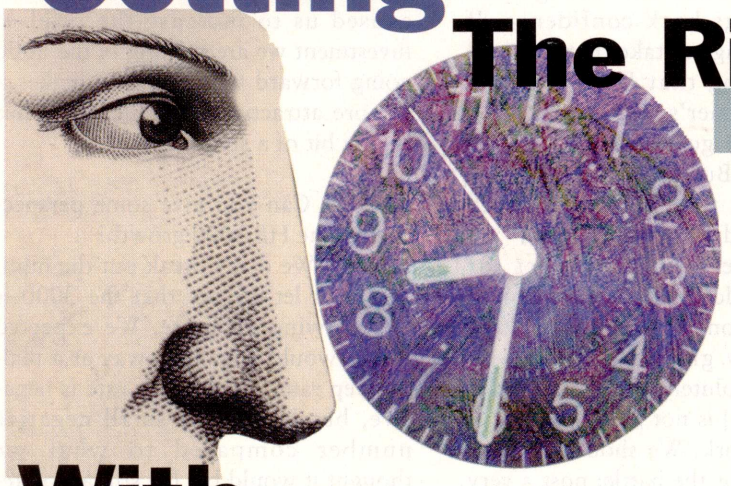
Secondly, we are actually still booking new 3000 business. That was also a surprise. And that led to this focus on [five] vertical markets where the 3000 seems to be particularly well positioned as a place of going and getting new business. We thought by now that getting new business for the 3000 would probably be pretty hard.

[Those two] things, of course, provided positive feedback. And that caused us to increase the level of investment we are making in the 3000 going forward which in turn makes it a more attractive program. So, it has been a bit of a surprise.

HP Pro: Can you give some perspective on the HP 3000 growth?
L. Platt: We don't break out the numbers. But let me say that the 3000 is not growing anymore. We expected that it would be going away at a really steep rate. The growth rate is negative, but it's a very small negative number compared to what we thought it would be. It's still absolutely a very good-sized market. Now with the potential for new growth, that's pretty attractive.

Also, the 3000 today, the way we run the program really benefits tremendously from just the core technology investments we make, whether in PA-RISC or now IA-64. In some ways, it's kind of a free ride in terms of technology refresh. It's a pretty good deal. ◆

Setting The Right Time With Enterprise Storage



YEAR 2000 SPECIAL REPORT

Jim Baker

Keen observers of the Y2K phenomenon have split up the Year 2000 process into five phases that each and every organization must go through to address their Y2K problems (see sidebar). What's still ahead for virtually every company is the conclusion of the conversion phase, followed by testing and redeployment. With less than 18 months left before January 1, 2000, here is a series of observations for those still grappling with the Year 2000 problem. Perhaps unexpectedly, enterprise storage can play a significant role in buying back the time to complete Year 2000 certification on or ahead of schedule.

Rolling The Y2K Dice

Many companies are taking a high-risk shortcut by assessing their software, making their Y2K changes and putting the applications right back into circulation without full Year 2000 testing. In other words, they have checked the logic changes on a program-by-program basis but have not run the revised program with aged data, nor have they run a full system level test. Each such application could be a ticking bomb ready to explode during the millennium changeover.

Nothing less than full Y2K testing will suffice. Full testing involves unit or program-at-a-time testing, system-wide or end-to-end testing and regression testing whenever any element in the mix is changed — all with aged and non-aged data. If your tests can include trading partners and suppliers as well as down stream customers, they will be that much more relevant. For example, the Securities Industry Association is conducting multi-firm, end-to-end testing for stock trades, settlements and reporting during a simulation of the millennium changeover period.

Enterprise storage with advanced features like multiple mirroring offers users a unique way to help buy back the time to perform real Y2K testing. Using enterprise storage reduces the completion risk associated with a customer's Y2K project. Multiple mirrors of the data can be established non-disruptively whereby multiple teams can each work on their own part of the

problem. If their copy of the data becomes compromised as part of the testing process, they can refresh it quickly for another pass at the test. Advanced enterprise storage techniques offer high-speed refresh cycles such that more tests can be accomplished per shift, thus reducing the time needed to perform more thorough testing and, in turn, reducing panic and pressure.

Advanced enterprise storage allows establishment of test volumes either via command lines from an operator or via script steps. Refreshing those volumes is accomplished with a single command statement. Users generally find creation of test volumes to be quick and easy.

Mirroring Mirrors

Creation of multiple mirrors is a storage-level function, not a system-level function consuming the resources of the host or server. It enables multiple Y2K teams to work simultaneously on their own mirrors of common data. Many Year 2000 test teams working in parallel can do more than those same teams working serially and sequentially. This puts the achievement of Year 2000 compliance back into the realm of probability rather than possibility. Nonetheless, customer teams should be working on critical path items first before turning to less-important applications

Software models and workbench simulations are not as representative of reality as cross sections of production data. Advanced enterprise storage can quickly create mirrors of live data in remote as well as local environments. Test teams can work with copies of actual data that are far more reflective of the oddities and quirks that happen in real life. The production environment is protected since the mirrored data has its own unique addressing scheme.

You will want to procure enterprise storage with advanced mirroring features and run some tests to prove whether your "silver bullet" is valid. Because enterprise storage is reusable once the millennium changeover is complete, it is clearly a long-lived asset for use in other corporate initiatives such as electronic commerce, data warehousing, business continuance and enterprise applications. The best way to protect your firm against Y2K related lawsuits is to perform "due diligence" for the project.

—Jim Baker, Year 2000 solution manager at EMC Corporation, focuses on creating Year 2000 solutions that minimize disruption and costs associated with Year 2000 conversions.

FIVE PHASES OF YEAR 2000 COMPLIANCE

1 Awareness

What is Y2K and why should I care?

2 Assessment

How does the Y2K bug exhibit itself in my company? Just how bad is it here? How much code is affected?

3 Conversion

Who/what can help me make the necessary Y2K changes to my systems and how? How do I set up a conversion environment? Which applications are mission-critical vs. non-mission-critical? What should be our relative prioritization scheme?

4 Testing

How do I test for Y2K compliance? Do I have enough disk space to conduct Y2K testing effectively? Do I have to take my production system down to conduct Y2K testing? Can I test more than one application at a time? Am I testing with data coming from outside the organization such as a supplier or going to an organization such as a customer or trading partner?

5 Redeployment of Corrected Code

How do I preserve my remediated code safely? What procedures do I use to rollout the fixed code into the organization? What do I do with my Year 2000 assets once the project is completed?

Fred Mallett
frederm@famece.com

Document Manifesto

Let's face it, at one time or another, nearly everyone has wanted to know exactly how a particular UNIX box is configured. Typically, it's your manager at 5 p.m. on a Friday. Some sites keep a database of all workstations, which, though it is cumbersome to build, sure saves time in the long run. The hard part is always the gathering of the data. For example, how much memory does a particular host have? Is it using JFS for a file system? Which SCSI address is the tape player set to? Is it using NIS? Was it installed with *Ignite/UX*? When was it installed?

Though these things are easy enough to determine, you will end up spending more than a few minutes running the commands necessary to gather all this information. It might be much longer if you've just returned from vacation and can't remember which commands to use to determine these bits of data. This month's column addresses a rather new and very simple way to gather most of the data you need to answer questions about how a workstation is configured, or gather data about your network to store in a database.

DATA GATHERING

Last month's column was about HP's *Ignite/UX* product. The **print_manifest** command is part of *Ignite/UX*. As mentioned, *Ignite/UX* is free, and can be downloaded from **www.software.hp.com**. After installation, **print_manifest** is in **/opt/ignite/bin**. Running this command takes a minute or so, then it spits out almost 100 lines of system configuration information. This includes data about the installed software and hardware, disk and filesystem layout information, swap configuration, any kernel changes the system has compared to the "installation default" kernel and all network configuration parameters. Not a bad list of stuff for one command, wouldn't you say? If the host was installed with *Ignite/UX*, there will be even more lines of output.

A CLOSER LOOK

Let's look at some of the data found in the output of the command.

First, there are two sections: one titled "System Information," and one that is really network configuration. It lists the parameter, followed by the value it is set to. For example, here is the hostname line:

```
hostname:                puxy
```

Note that the writers of this tool were nice enough to put a colon after the parameter name, which makes it easier to parse the output with a script to extract data for a database. The other parameters listed in this section include: IP address, subnet mask, gateway IP address, time zone, DNS domain name, DNS IP address, and NIS domain name.

A common request from end users of a machine is "How much memory does it have?" In the section of output called "System Hardware" you will find it listed in the format:

```
Main Memory:          48 MB
```

along with several other hardware items such as model, processors, LAN hardware ID, software ID, storage devices and all I/O interfaces and the drivers used for them.

Ok, enough of the output, you get the idea. What we have here is a summary of the outputs from many commands, listed in a coherent manner. A print-out of this command could have been handed to your manager about two minutes after the request.

TAILORED OUTPUT

Heck, if you issued **print_manifest** with the **-e** and **-s** options, you could hand an even prettier report even quicker to management before leaving on Friday afternoon.

The **-e** option means use PCL control codes in the output so you get things like bold headings. The **-s** option means use previously stored data, don't search the system. This implies that manifest data is stored somewhere and can be extracted for output. That is true since the raw data is stored in the file (by default): **/var/opt/ignite/local/manifest/manifest.info**. This is the basis for being able to customize the output.

Customization is done with the **-t** option. You supply a template file that uses **pcl3** formatting commands (many look similar to **printf**), allowing you to structure the output as desired. Luckily, there is a sample file in the **/var/opt/ignite/local/manifest** directory that you can edit as desired. The

sample file is called **template.def**, though that is a peculiar name for a file that is actually used. Just make a safety copy, then edit away on the original.

For example, if you want to compress the output by removing all the blank lines, delete all the lines that contain **TEXT** with no text after it. If you will be parsing this data with a program, you might consider speeding things up by removing all leading spaces and removing all section headers. For example, in the **template.def** file, the lines:

```
TEXT System Hardware
FORMAT      Model:
%s\n
MODEL
```

could be changed to:

```
FORMAT Model: %s\n
MODEL
```

which would remove the **System Hardware** heading and condense the printing of the system model. If you want the default output to remain, but to also have a brief format output, copy **template.def** to **brief.def**, then issue **print_manifest -t brief.def**.

DATA DIVE-IN

Another way to work with this data is to jump straight into the file where it's actually stored, and ignore the **print_manifest** command output. The **manifest.info** file has a beautifully readable condensed format. For example, here are the first few lines:

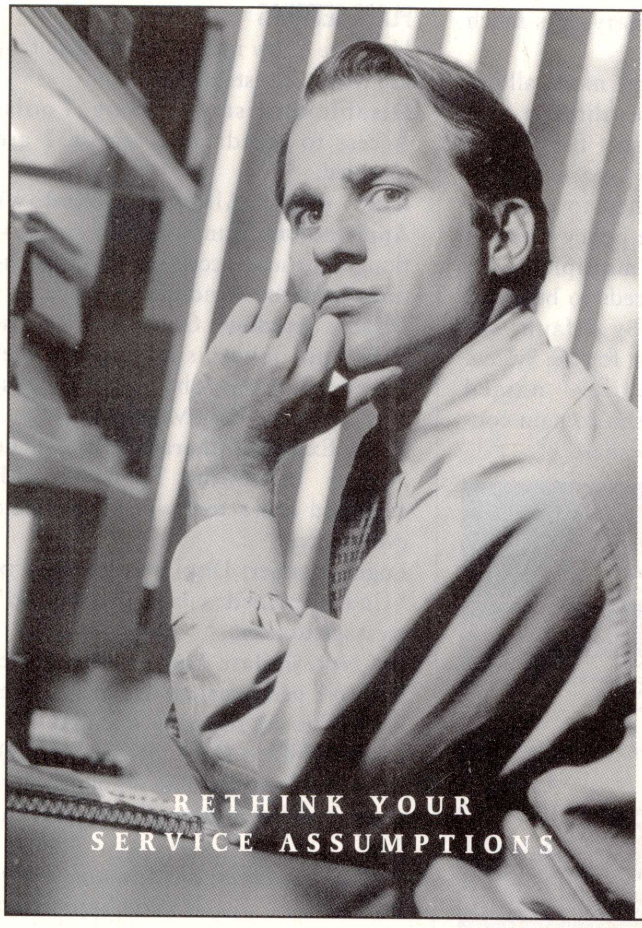
```
OS_REV B.10.20
ARCH 700
SW_ID 2007120498
MODEL 9000/705
RAM 48
LAN 0x080009276AC6
```

Note the **MODEL** line. The data assigned to this variable is accessed from the **template.def** file when the output is printed, as seen in the example above. If you were going to access this information from a program or script, it would probably be worth accessing this file directly. It is updated every time **print_manifest** is run without the **-s** option.

If you want to gather up information about all the HP-UX machines in your network, you could base the data gathering on this tool. Once it is installed, or accessible from all hosts, execute it, then have some locally written tool send the data to a central machine for storing.

Of course, Perl comes to mind for writing the client and server sides of this tool. You could also just copy the **manifest.info** file from all hosts to a single location, naming it after the host it came from (the poor man's database). This kind of hardware accounting was recently initiated at my site.

—Fred was last seen installing some "borrowed" memory back to his manager's workstation. His column is also available at www.hppro.com.



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Policing NT System Policies

Perhaps the best thing about a graphical user interface is ease of use. Unfortunately, this ease of use

can lead people to explore areas of the computer they shouldn't, or change desktop settings they shouldn't.

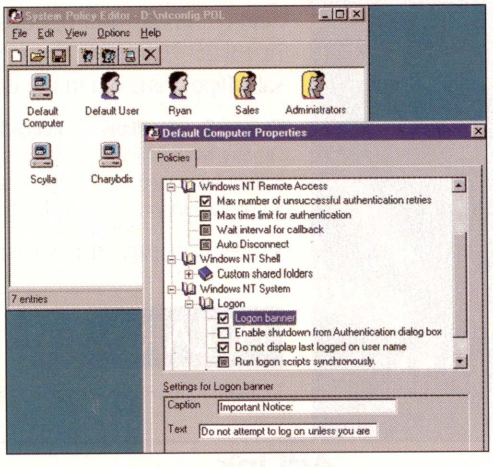
One way to prevent this is to use System Policies, a collection of Registry settings that define what resources are available to what users. System Policies lets you restrict changes to the desktop, control what applications can be run or even change the appearance of the Start menu.

PROFILERS

A user's profile contains information about their environment, such as the arrangement of icons, printer connections and window sizes. At logon the System Policy is applied. Any changes or restrictions in the policy are applied to the registry before the user gets control of the desktop. Thus, the system administrator gets to enforce what users see, access and change, despite the user's preferences.

Changing the registry's details is an arduous task. Fortunately, NT provides a System Policy Editor to ease the work. The editor combines the ease of the Control Panel with the functionality of the Registry Editor. While the editor doesn't offer complete access to the registry, it is much simpler to use.

The editor's Registry mode allows users to make changes directly to a local or remote Registry file. Policy file mode is used to create System Policies that are applied to users or machines. Because the policy files can contain settings for multiple users, only one policy file needs to be created for the domain. By default, the logon process will look for the System Policy in a file named NTCONFIG.POL in the domain controller's NETLOGON share.



The System Policy Editor is on NT's Administrative Tools (Common) menu. From the File Menu on the editor's empty window, select Open Registry for registry mode or create or modify policy file to use policy file mode. Policy settings for a default computer and user are available as icons. Any changes to these policies will be applied to everyone. Policies for individual users, groups or machines can be added with the Edit option.

Policy settings are displayed in a tree structure grouped by category. Individual settings may be viewed by expanding the category label. There are three choices for setting policy options: checking an individual box means the setting is implemented; an unchecked box means the setting is not implemented; a grayed box means that the setting will not be changed and whatever option was set at logon will be preserved. But, be warned: Some settings require checking to enable the setting and others require checking to disable the setting.

PLACE SETTINGS

Here are a few individual settings that are worth investigating.

Disable Registry Editing Tools: Access to regedit and regedt32 are disabled.

Run Only Allowed Windows Applications: Run specified applications and limit access to the applications from the Windows interface.

Disable Shutdown Command: To disable shut down using Ctrl-Alt-Del keys; remove the "Shut down the system" from the User Manager.

Allow Extended Characters In 8.3 File Names: Insures that file names with extended characters will be viewable everywhere.

Logon Banner: Display some kind of "Unauthorized use is prohibited" message to users.

Do Not Update Last Access Time: Improve performance if a large number of files are regularly updated.

Create Hidden Drive Shares (server): Each drive can have an administrative share created automatically (such as C$).

—Ryan's columns are available online at www.hppro.com.

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The HP 3000 Shines In San Diego S-38

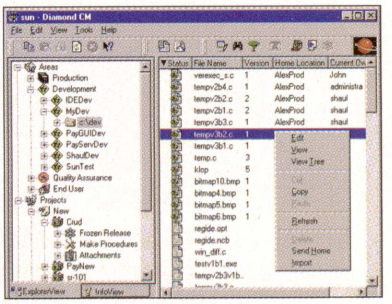
HP World '98 brings out the best in the HP 3000.

HP 3000 Serves Up A Winner S-40

- Pricing tiers without fears.
- New models
- MPE/iX 6.0
- New High Availability features

Product Brief S-39

- Diamond Optimum's Diamond CM
- Lund's Shadow D/R



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HP 3000 Shines Brightly In The Shadow Of The Gas Lamp Quarter

SOUTHERN CALIFORNIA'S San Diego is the city of balmy breezes, pulsating palms and toned and tanned tummies — and, for four days last month, the home of HP and their worldwide legion of loyal customers. HP World '98, this year's edition of the annual shindig that's also a forum for knowledge transfer, electronic enlightenment and drawing attention to what's new from Palo Alto, was held in the San Diego Convention Center.

Despite the allure of the city and the appeal of the jungle grotto pool that lured many attendees to the adjacent Marriott by 2:00 p.m. most days (and you know who you are), there was much worthwhile information to be had for the asking, lots of sound and fury on the show room floor and the promise of much more exciting new technology to come — even for mature platforms like the HP 3000.

A NEW FOCUS, A NEW LEASE ON LIFE

HP World, though its focus has expanded the last few years to encompass UNIX, Windows NT and their related products and emerging technologies, is still well attended by a horde of HP 3000 loyalists, many of whom have been lamenting over the inevitable demise of their beloved server platform.

But this August their spirits were rejuvenated as HP announced support for IA-64 technology for the HP 3000, a bevy of new products, price structures and even an expanded MPE/iX operating system (see our story on page S-40). Harry Sterling, HP's CSY general manager, put any lingering doubts to rest as he chaired a plenary session named "HP 3000: The Next 25 Years."

In keeping with the "Succeed in Today's Electronic World" theme of the show, excited HP 3000 users attended a variety of seminars targeted at bringing their legacy systems up to the state of the electronic art. Some of those seminars had titles like *HP 3000 and NT Interoperability, Introduction to VirtualVault, Web Software Testing, Getting Started with Samba/iX, Using HP 3000 with NT Web Server,* and *Java for MPE/iX.*

A REBIRTH, A RENAISSANCE OF SORTS

Not to be outdone, the show was crowded with HP ISVs participating in the renaissance. Interoperability, Internet and integration were the focus of many of the MPE/iX vendors gathered on the Convention Center floor. Even the casual stroller could find information on integrating their HP 3000 into a heterogeneous UNIX/NT environment, implementing Java and Web services under MPE/iX and news from the high availability, data warehousing and Year 2000 markets.

Of course, gathering that information was a daunting task as it required running the amplified gauntlet of the usual stable of what have become Expo lounge acts. In one spot, you could stand motionless and be assaulted by at least two Vegas-styled magic acts, the occasional taped roar of a Harley Davidson (note to Nobix: as a motorcyclist for over 20 years, I'd think twice about associating Harley with a "Smooth Ride into the 21st Century") and a high-volume Jeopardy game show.

But getting your attention is the name of the game these days and it's safe to say that HP managed to do that to the HP 3000 platform so long a reliable bulwark of their product line.

—Ken Deats
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Only The Shadow Knows

Product Briefs

Shadow D/R
DATA REPLICATOR
For MPE/iX Systems

SHADOW D/R

Lund Performance Software
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Shadow D/R replicates TurboIMAGE databases by transporting the log file entries of a primary system over communications links to a secondary system.

It then automatically updates the databases of the secondary system to match those on the primary. When data is edited or added to the primary database the secondary is automatically updated with those changes.

Primary uses for Shadow D/R include: database replication which lets an IS manager switch from the primary system to the secondary system in the event of a primary system failure; zero-downtime database backup allows for database backup from the secondary copy so that users maintain 24-hours a day access to a production database on the primary system; and load balancing lets users use the secondary database in "read-mode" for inquiry tasks and reporting.

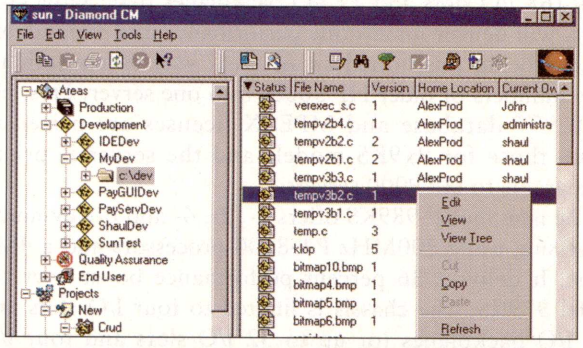
Charlie Moore, operations manager at Lucent Technologies is a long-time user of Shadow D/R. Used strictly as a disaster recovery tool, he shadows four TurboIMAGE databases that comprise a total of 20 GB from a HP 3000 980 on to a HP 3000 957. "It's been a fantastic tool," he says.

Although Lucent has never had to put it to the test, Moore says that in their Shadow D/R testing, his staff can do a full recovery in less than four hours.

Pricing is tier-based depending on the CPU.

14-Carat Program Control

Product Briefs



DIAMOND CM 5.1.6

Diamond Optimum Systems, Inc.
22801 Ventura Blvd.
Woodland Hills, CA 91364
tel: (800) 362-8271
fax: (818) 224-2009

AdLink

Diamond Optimum's new configuration management software, Diamond CM 5.1.6 features a redesigned GUI and a Java version for enhanced remote access and portability. It has been designed to meet the needs of developers in environments with multiple sites and platforms, including MPE/iX, UNIX and Windows 95/NT.

Among the features built in to Diamond CM is its software inventory/impact analysis. "The system configuration management process doesn't start with a check-out request," says Igor Yasno, president of Diamond Optimum Systems. "It starts with the identification of all components of an application that may be affected by the proposed modification." Diamond CM identifies all tables, variables or subroutines in use by a program and uses that information to determine a project's scope and workload estimates.

Other features include: version control, which maintains libraries on distributed hosts; process flow models to control application changes; file/project promotion for drag-and-drop file transfer functionality; build management for support of UNIX and PC-style "make" files and distributed "build" across multiple hosts and platforms; a GUI programming editor; software distribution of both ASCII and binary file types to end users; and generation control, which automatically saves old versions of changed files.

HP 3000 Serves Up A Winner

With New Models And MPE/iX 6.0, Everything Old Is New Again

Ken Deats
Associate Editor

After 26 years with the HP 3000, only two things remain the same: one, the name; two, any application ever written for the HP 3000 still runs on the platform.

Everything else has changed. Now, HP has unveiled new models and enhancements that they say will carry the HP 3000 well into the next millennium.

Dave Snow, HP 3000 high-end platform manager, sums up those changes in four categories: re-pricing top to bottom; new mid- and high-range server models; new high availability features; and a new base version of MPE/iX 6.0, due to ship this October.

Doin' The Pricing Limbo

According to Snow, seven different pricing tiers have been reduced to three: low-, mid-, and high-range. Most platforms will drop one to two tiers and add-on software will be reduced as well, he says.

In the mid-range, the HP 3000 939KS/020 is now priced approximately 20 percent lower and that includes eight user Image/MPE licenses, 128MB main memory, 4GB disk and a 4GB DDS-2 tape.

At the high-end, the HP 3000 997/500 is priced approximately 57 percent lower along with 256 user Image/MPE licenses, 1GB main memory, 16GB disk, a 12GB DDS-3 tape and a 3.0kVA UPS.

Along with new database and MPE/iX user license rebates that can reach 35 percent for HP 3000 box swaps, most databases and MPE/iX user license prices have been reduced as much as 45 percent.

The bottom line, according to Snow, is that to reflect similar value, HP 3000 hardware prices now more closely correspond to HP 9000 prices.

New Additions

Three new models have been added to the HP 3000 server family at the mid- and high-end.

The model 997 adds either 6- or 8-way multiprocessing and has blasted past the performance rating of the 995 and 996 models with a 63 percent performance boost. It features 168 I/O slots and 12 I/O backplanes that, Snow contends, will deliver mainframe performance and expandability. It's being positioned as an ideal way to consolidate large numbers of older HP 3000s into one server. Plus, HP 3000 997 database and MPE/iX licenses are priced to match those for 9x9KS models and the server is priced comparable to HP 9000 servers.

The new model 989KS offers 1-, 2-, 4- and 6-way multiprocessing using 200MHz PA-8200 processors and a 4MB cache. It delivers 36 percent performance boost over the model 979KS. The chassis is limited to four I/O slots and two I/O backplanes (or up to 32 I/O slots and four I/O backplanes with optional external card cages). Snow says that, for customers who want to move up within the 9x9 product line, the 989KS offers a smaller footprint and lower TCO than an HP 3000 99x server.

The mid-range lineup has a new entry-point with the HP 3000 929KS/020. It features 18 percent more application performance than the model 968 at comparable prices. A full member of the 9x9KS family, it has the potential of up to a 900 percent performance increase through board upgrades.

I/O expandability runs from four to 36 slots and memo-

ry from 128MB to 3.75GB. To make trading up and consolidating easier, HP is offering a 45 percent rebate on databases and MPE/iX user licenses when box-swapping an older HP 3000 server.

All three models are available now and require MPE/iX Release 5.5 PowerPatch 5.

How High Can It Go?

MPE/iX 6.0 incorporates version 5.5 and Power Patch 5 and adds several new high-availability features.

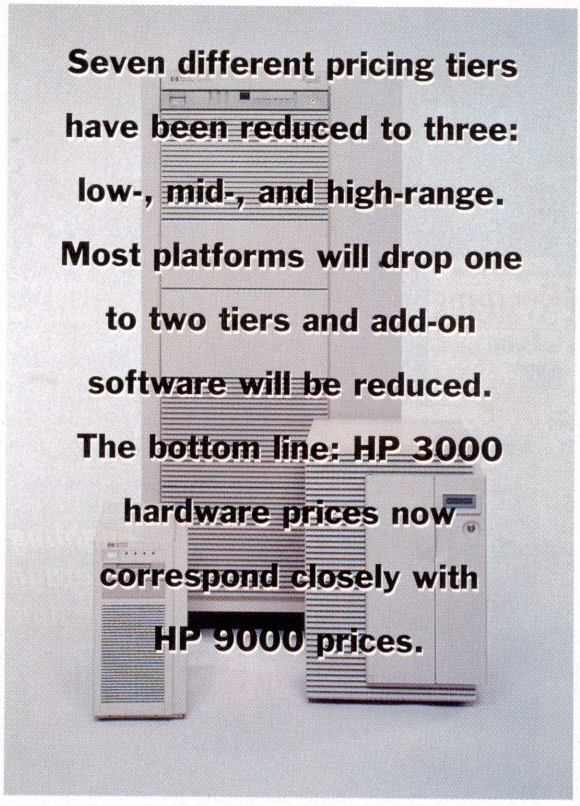
First, it delivers enhancements to SharePlex/NetBase products and takes advantage of their view of the network as a single system by adding support for multiple FDDI cards. Snow comments on the improved cluster throughput and redundancy this additional connectivity provides.

Next, HP has added support for DLT 7000s, High Availability Array Failover, Legato Storage Node, DLT libraries and EMC's new Symmetric Remote Data Facility (SRDF) and TimeFinder.

Legato Storage Nodes locate data close to host systems, allowing only control data to traverse the network. Data backups can then take place locally, but metadata (like indexes and control information) are still maintained on the local server. They allow the HP 3000 to support DLT libraries which, according to Snow, positions the MPE/iX server to act as a storage manager in a heterogeneous UNIX and NT environment.

EMC's SRDF provides data availability for business continuance during an unanticipated data center outage by maintaining duplicate copies of data (either local or remote) by disk array. Snow scripts a scenario where, with SRDF, recovery can be measured in minutes and resynchronization of data is automatic and efficient.

TimeFinder creates multiple, independently addressable volumes, i.e. multiple read-only copies of data, helping managers resolve availability issues when multiple processors require the same data at the same time. Snow comments on the benefits realized by being able to run housekeeping chores and warehouse loads/updates concurrently with production cycles.



Approaching The Big 6.0

Paper manuals are a thing of the past with MPE/iX 6.0 since all documentation will be written, published and stored on HP Instant Information using SGML. HP Instant Information is replacing LaserROM as the preferred viewing mechanism for documentation with additional copies available on the Web at www.docs.hp.com.

MPE/iX 6.0 supports the new models 997/600-800 and 989KS with its higher frequency PA-8200 cpu and provides the base operating system for future releases that will support the 64-bit functionality of next-generation PA-RISC processors.

Bigger, better servers usually bring with them bigger, better storage components, so 6.0 includes supports for 18GB disk drives and individual files greater than 4GB. For better system management, it also handles multiple, user-definable input job queues and includes Easytime/XL.

"Interoperability and Internet integration" may be the mantra for MPE/iX 6.0. Mindful of the increasing need to fit as seamlessly as possible in heterogeneous environments and improve the HP 3000's presence in the electronic world, Snow ticks off a myriad of added support and bundled products.

First, is support for Legato's NetWorker that, he says, provides enhanced Windows 95/NT, Macintosh, HP-UX and Netware connectivity. Next, the new release comes bundled with SAMBA/iX, originally freeware from Easy Does It Technology (Richland, Wash.), that provides HP 3000 file/print sharing from Windows 95/NT workstations.

Third, connectivity improvements have been realized with FTP enhancements — the HP 3000 now has the ability to transfer all MPE/iX file types. In addition, 6.0 includes the Java Virtual Machine, the Java Development Kit and an improved Just-in-Time compiler. Last is support for 100Base-T and 100VG-AnyLAN cards and Domain Name Service (DNS) BIND, a basic Internet service that provides host-to-IP address mapping for network servers.

If all that sounds confusing, HP Education has expanded their MPE/iX curriculum and is offering six new courses for 6.0. They include: New Features and Functions of MPE 6.0; MPE Fundamentals; MPE System Management; MPE Network Administration; IMAGE Databases I: TurboIMAGE and IMAGE/SQL; and IMAGE Databases II: Client/Server Access to IMAGE/SQL.

The curriculum will kick off with a one-day seminar, scheduled to be offered worldwide before year-end, on MPE/iX 6.0. More information on course offerings can be found at www.education.hp.com. ◆

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APPLICATIONS DEVELOPMENT

Whisper Programmer Studio

Whisper Technology's new Whisper Programmer Studio is an integrated visual development environment for UNIX and MPE programmers. It provides the ability to edit, compile and link programs on a remote server from a Windows-based IDE.

It provides unlimited undo/redo, customizable color syntax highlighting and auto-indenting. It has Code Navigator support for C, COBOL, Java, Pascal, Powerhouse, Fortran, Basic and others. It supports COBOL line numbers, line tags and copy libraries. It supports third-party formats including Qedit and features one-click compile.

➤Contact Whisper Technology, Inc., Surrey, U.K. at (888) 465-8145.

MiniSoft's TurboIMAGE JDBC Driver

MiniSoft's new Java databases connectivity (JDBC) driver lets programmers write applications in Java to access HP TurboIMAGE databases using SQL statements.

It allows developers to deploy a one-, two-, or three-tier database-access solution, providing users with access to databases on any HP system. A three-tier approach lets Java applets or applications access databases on any HP 3000 from a Web server and provides a single point-of-entry for applications without limiting access to databases that reside on any number of HP 3000s. It provides enhanced SQL parsing and optimization to make use of TurboIMAGE keys and third-party indexes.

➤Contact MiniSoft Inc., Snohomish, WA at (800) 682-0200.

DATA WAREHOUSING

Multiview Adds Client/Server

Multiview Client/Server was designed with the company's object-oriented approach to data organization and advanced reporting capabilities using Oracle products, including Developer 2000 technology and RDBMS and is Year 2000 compliant.

It includes general ledger, A/P and purchase order modules. Multiview breaks coding blocks into three components - units, accounts and projects. An object-oriented approach to the organizational and accounting structure provides power, flexibility and control over financial information. That is coupled with a hierarchical ownership principal applied to each component. It includes Direct Access Viewing Environment that can grab and display in real-time any information from any level in the organization. It runs on HP 3000, HP 9000 and NT platforms.

➤Contact Multiview Corp., Peabody, MA at (978) 535-4400.

DESKTOPS AND SERVERS

Camintonn's New Memory Modules

Camintonn Corp. has announced several new HP memory modules designed to meet the requirements of the HP ENVIZEX II and ENTRIA II Series, Apollo 9000, D&K class systems and the HP 3000 9x9KS systems.

ENTRIA II and ENVIZEX II can be upgraded with custom 32 Mbyte modules to a maximum density of 98 Mbytes. HP Apollo 9000 D&K systems can be upgraded with new Camintonn 512Mbyte density modules. The HP 3000 9x9KS can also now be upgraded in 512 Mbyte densities, doubling the current maximum memory.

➤Contact Camintonn Corp., Irvine, CA at (949) 454-1500.

Dataram's 512MB Upgrade

Dataram's DRH9300/512 is designed for HP 9000 B, C, D, J and K and for the HP 3000 9x9 line of workstations and servers.

The new upgrade allows users to install up to 3GB in the D380, 4GB in the new J2240 and K380, or up to 8GB in HP's new K580 model. The upgrades incorporate 64-Mbit DRAM technology. Users are urged to check with Dataram to confirm specific models supported and whether any upgrade patches are required.

➤Contact Dataram Corp. Princeton, NJ at (800) 822-0071.

DISASTER RECOVERY AND SECURITY

Syncsort's New Backup Express

Syncsort, Inc. has released v. 2.0 of Backup Express. Release 2.0 has been certified as a Database Backup Solution as part of SAP America's Complementary Software Program.

Users can also perform online backups of Microsoft Exchange Server for Windows NT through the Microsoft Exchange API and can monitor backup jobs through network management tools such as HP OpenView with the new SNMP Interface. The enhanced tape import/export features allow users to import or export either one tape at a time or multiple tapes simultaneously.

➤Contact Syncsort, Inc., Woodcliff Lake, NJ at (201) 930-8280.

E-COMMERCE

New VSI-FAX For QAD's ERP MFG/PRO

ECbridges and V-Systems have partnered on VSI-FAX for QAD that automates faxing in ECbridges' MFG/PRO environment.

With VSI-FAX users can fax purchase orders to expedite fulfillment, transmit invoices to speed payment, fax P.O. schedules for on-time delivery, send sales order confirmations, status and items shipped status to improve customer service. Faxes can be sent manually or automatically in batches according to a predetermined schedule. Customized faxes can be created with logos or other information.

VSI-FAX is portable across multiple MFG/PRO UNIX platforms and runs on MFG/PRO 7.4H and 8.5F or higher. An NT version is in development.

➤Contact V-Systems, Inc., San Juan Capistrano, CA at (949) 489-8778.

NETWORK INTEGRATION

Tidal Software's New sysADMIRAL

SysADMIRAL release 2.1 has passed two Microsoft Logo Certification processes that ensure the consistency and interoperability of sysADMIRAL in a Windows NT operating environment. In addition, access to Microsoft SQL has been modified to be a direct, native interface.

SysADMIRAL's Dashboard is an executive information system-type interface that presents key schedule performance information in an easy-to-use graphical format or with user-defined graphs, charts and tables.

Its Job Activity Console has added a fully customizable view, filtering based on wildcard searching, advanced job group expandability, extensive sort criteria and the ability to control all instances of a job.

➤Contact TIDAL Software, Palo Alto, CA at (650) 493-4100.

Orion's Web Hunter Indexing Tool

Orion Group has released the Orion Web Hunter, a HP 3000-based Web indexing and search tool.

Web Hunter allows those who are running Web servers on their HP 3000s to index their documents and conduct searches based on titles, keywords and content. Sample applications include searches of material safety data sheets, application source code and ISO9000 documentation.

It uses a background job to index the HTML files on the Web site and stores the parsed information in a TurboIMAGE database. Web Hunter uses standard CGI programming techniques to interact with TurboIMAGE for fast searches of the Web site.

➤Contact Orion Group Software Engineers Inc., South Bend, IN at (219) 233-3401.

SYSTEM AND NETWORK MANAGEMENT

New Version Of NetAlertPlus

Design 3000 Plus has announced an enhanced version of its Callback product, NetAlertPlus (NAP) for Distributed Systems which monitors Windows NT, UNIX, AS/400 and MPE systems.

Residing on any Pentium-class PC on the network, NAP can also monitor environmental events such as power and temperature. Event notification can be sent to alpha or digital pagers, mail servers or to a phone. It recognizes an answering machine versus a live person. The system administrator can record voice messages and assign text messages. There is a dial-in capability to allow a user to call-in and execute a set of instructions.

➤Contact Design 3000 Plus, Inc., Salem, OR at (503) 585-0512.

Lund's Intact D/R For IMAGE

If a program terminates without completing a transaction, Intact D/R rolls back the transaction. Intact D/R can roll back all of the offending program's database activity

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automatically. Then it is necessary to rerun that program, not all the prior programs in the job.

Intact D/R reports on its rollback activity. Programs can use Intact D/R's DBUNDO to roll back an in-progress transaction if the user changes his mind. Intact D/R also aids testing of database applications. It can be configured to roll out test transactions, eliminating the need to restore databases after each test. This permits testing against live databases without risk.

➤Contact Lund Performance Solutions, Salem, OR at (541) 926-3800.

YEAR 2000

EasiRun's Fast Track Year 2000

EasiRun USA has announced its Fast Track Year 2000 program for medium-sized businesses. Aimed at mid-sized companies that don't have the resources for full-scale conversion, EasiRun will develop a fixed-price bid for Y2k conversions using a toolset that is customized for the specific requirements of each project.

EasiRun uses the sliding window technique rather than full date expansion whenever possible. Fast Track Y2k reduces elapsed project time by identifying and prioritizing mission-critical applications, defining contingency plans for lower risk applications and optimizing the testing phase, reducing testing time by up to 50 percent.

➤Contact EasiRun USA, Inc., San Diego, CA at (619) 587-0467.

Accelr8 Technology's Free Ignition 2000

Ignition 2000 is a free scanning tool designed to initiate the Year 2000 process within companies. It identifies the level of date density, the number and type of files in a code set and the number of lines of code within the application environment.

Used as a stand-alone tool, it provides an indication of the Year 2000 date-related issues to assist in determining the severity of the Year 2000 problem within computer systems. The intent of Accelr8's introduction of Ignition 2000 is to provide an indication of what companies can expect to face as they prepare for the Year 2000 change.

➤Contact Accelr8 Technology Corp., Denver, CO at (303) 863-8088. ◆

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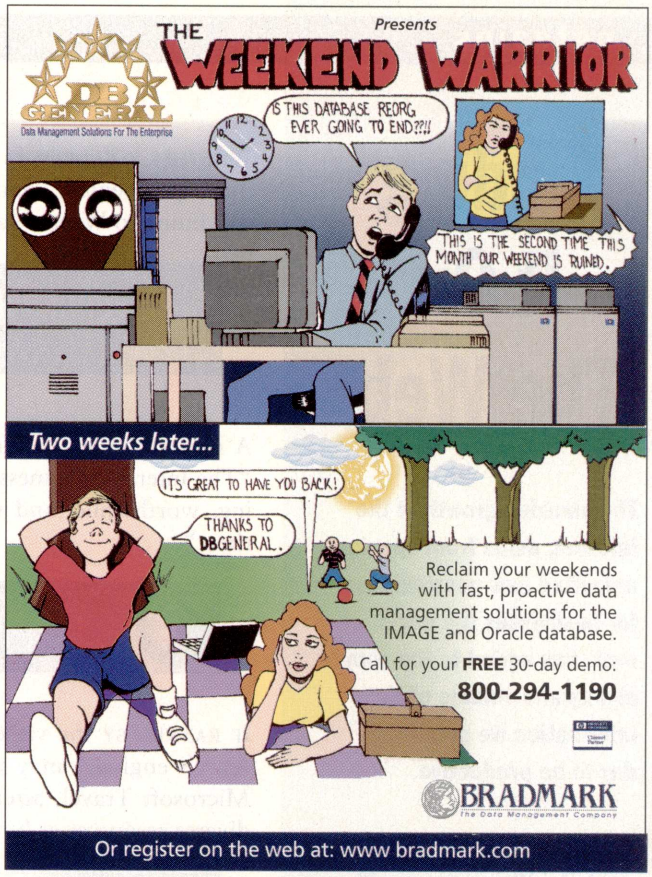

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Finding It On The Web

The amazing growth of the Internet, aside from opening unlimited new possibilities for businesses the world over, has added to the complexity and volume of the information we need every day to be productive.

How many times have you started a Web session with the thought "Now, how do I find that site?" Or "Where exactly can I get information on...?"

Everyone knows about ubiquitous search sites like Yahoo, AltaVista and Lycos. This month, we thought we'd search for some lesser-known search engines — engines that have to try a little harder if they hope to steer traffic away from the big boys.

As always, link to them all from www.hppro.com.

WHETHER YOU DRESS in pin stripes, paisley or plaid, there's a category sure to interest you at pinstripe.opentext.com. For searching through categories that range from Accommodations to Mining to Waste Management, this site's not just for the business-minded e-searcher.

NOT JUST FOR THE BUTTON-DOWN 'NET SET, CHECK OUT PINSTRIPE.OPENTEXT.COM.

A GOOD WAY to describe the Internet Public Library is through their mission statement: "The Internet is a mess. Since nobody runs it, that's no surprise. There are a lot of interesting, worthwhile, and valuable things out there—and a lot that are a complete waste of time."

THE INTERNET PUBLIC LIBRARY STRAIGHTENS OUT THE E-MESS ON THE WEB AT WWW.IPL.ORG.

IF RANKED BY the variety of search categories offered, calling themselves the "# 1 rated search engine," may not be far off. At Hotbot, you can shop at the Gap, travel with Microsoft Travel, attend an auction, buy cameras or a home mortgage and link to such diverse resources as hotwired.com and suck.com.

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WHILE MOST OF its larger search cousins attempt to index the entire Web, The Sleuth maintains an index of searchable databases which can be queried directly from The Sleuth, simplifying the search for information. The Internet Sleuth solves the problem of finding the thousands of searchable databases on the net and generating a search by finding the databases for you, and allowing you to perform your search without leaving The Sleuth.

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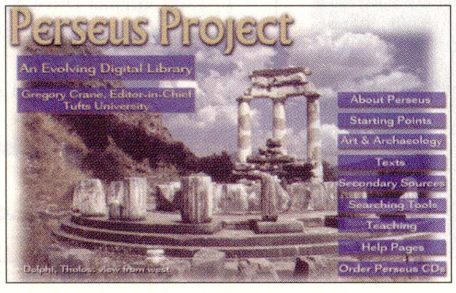
SOMETIMES YOU WANT to surf the Web just for the visceral appreciation of things you may find there. If so try Perseus, a digital library of resources for studying the ancient world. Its materials include ancient texts and translations, philological tools, maps, illustrated art catalogs and secondary essays on topics like vase painting. A team from a number of academic institutions has worked together to amass Perseus materials. Over 70 museums have shared pictures of their art objects.



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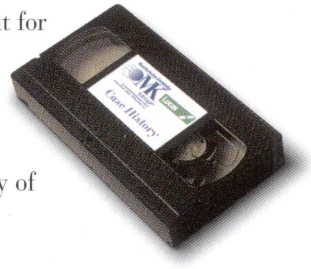
"We have 9 companies running MK Group solutions. Their software is bulletproof."

—**Terry Simpkins,** *Director, ISIT*
Lucas Control Systems

Lucas Control Systems is a $100+ million manufacturing company that was built by acquisition. This, of course, presented the company's Director of Information Systems and Technologies, Terry Simpkins, with an information systems nightmare. "Our 7 manufacturing locations were using 5 platforms, 6 MRP solutions, 6 general ledger solutions and 6 order processing systems." Some of the systems were no longer supported. Others could not cope with the Year 2000 problem. What's more, the company intends to triple in size in the next few years. Clearly, Terry Simpkins needed to standardize on a single, robust, scalable and flexible system. He found it in the MANMAN® integrated manufacturing management software from MK Group, an independent business unit of Computer Associates International, Inc. The software runs on the HP 3000 platform.

MANMAN and MK Group had both proven themselves to Terry Simpkins over the years. "We are very satisfied with MANMAN and MK Group. Their solutions have always given us the flexibility, robustness, support and future options we needed. They handle multiple currencies and they're Year 2000 compliant. And our HP 3000 system defines the word reliability. Staying with MK Group and Hewlett-Packard as we grow will save us millions in total cost of ownership."

The cost savings with MK Group were expected. But the real benefits, according to Terry Simpkins, are the "increased functionality, improved business integration and better information management." Find out for yourself what Lucas Control Systems has proven. You can't beat the powerful, bulletproof software and total customer support of MK Group. Contact MK Group at 1-800-407-8686 or visit www.mkgroup.com for a free videotape case history of Lucas Control Systems' experience with MK Group and Hewlett-Packard.



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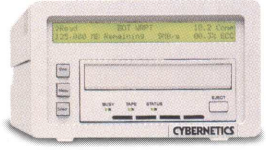

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We also offer **Multi-Host Libraries** that house up to six drives and 126 tapes - for a capacity of up to 15.75 terabytes.

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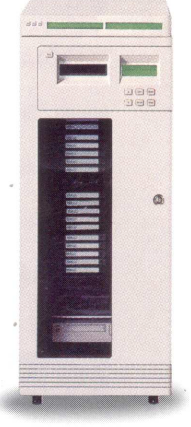

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